

Mr. David Wilson Remedial Project Manager U.S. Environmental Protection Agency 77 West Jackson Blvd. HSRM-6J Chicago, Illinois 60604

958244

RE: SUBMITTAL OF REMEDIAL ACTION CONSTRUCTION REPORT FOR THE ZANESVILLE WELL FIELD SITE IN ZANESVILLE, OHIO.

Dear Mr. Wilson:

On behalf of United Technologies Automotive (UTA), SECOR International Incorporated (SECOR) is pleased to submit two copies of the Remedial Action Construction Report for the Zanesville Well Field Site. This document has been prepared in accordance with the Statement of Work (SOW) for the Zanesville Well Field Site and presents a summary of the inorganic soil remediation and the Air Sparging/Soil Vapor Extraction system installation.

Two copies of this submittal will be forwarded to the Ohio Environmental Protection Agency (OEPA). If you have any questions regarding this submittal please contact me at (303) 763-8800.

Sincerely,

SECOR International Incorporated

Scott D. Andrews, P.E. Project Coordinator

Ms. Jason Romp, OEPA (Two Copies)

Mr. Jim Cline, United Technologies Automotive Mr. Eric Phillips, United Technologies Automotive

Mr. Brent Douglas, SECOR

Project File

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## REMEDIAL ACTION CONSTRUCTION REPORT ZANESVILLE WELL FIELD SITE ZANESVILLE, OHIO

July 31, 1996

### Submitted To:

Mr. Dave Wilson
U.S. Environmental Protection Agency
77 West Jackson Blvd.
HSRM-6J
Chicago, Illinois 60604

### Prepared For:

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SECOR Job No. B0135-001-02

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### 1.0 INTRODUCTION

#### 1.1 PURPOSE OF REPORT

The Remedial Action Construction Report has been prepared to document the completion of the Remedial Action construction and to provide the necessary information to ensure the construction was consistent with the design specifications. The Remedial Action included the completion of two activities: 1) Removal of Inorganic Impacted Soil, and 2) Design, construction and operation of a combined Air Sparging/Soil Vapor Extraction system. The inorganic soil removal activities were completed in accordance with the "Inorganic Soil Removal Work Plan" (Inorganic Soil Removal Work Plan), transmitted to the United States Environmental Protection Agency (USEPA) on July 21, 1995 and approved on October 18, 1995. The Air Sparge/Soil Vapor Extraction (AS/SVE) system was installed in accordance with the October 6, 1995 "Final Design Document for the Zanesville Well Field Site" (Final Design) and approved by the USEPA on October 18, 1995.

The inorganic soil removal was performed to address impacted soil containing lead, manganese and zinc in concentrations exceeding the inorganic soil clean-up criteria. The AS/SVE system was designed and installed to address impacted soil and groundwater containing trichloroethylene (TCE) and 1,2-dichloroethylene (1,2-DCE) in excess of the organic soil and groundwater clean-up criteria for the Site. The revised inorganic and organic soil clean-up criteria were approved in a USEPA letter dated February 13, 1995.

### 1.2 SITE BACKGROUND

### 1.2.1 Site Description

The United Technologies Automotive (UTA) property, located at Avenue in Zanesville, Ohio has been used for manufacturing purposes since 1893. The original property was owned by American Encaustic Tiling Company, which constructed many of the existing buildings and used the Site to manufacture ceramic products. The Site was occupied until 1962 by a number of companies including Shawnee Pottery, Timken Roller

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Bearing, General Electric Company, Daroff Corporation, and Surplus Materials Corporation. In 1962, the Site was acquired by Essex Corporation. In 1974, the Essex Corporation was purchased by UTA. The Site location is shown on Figure 1-1.

The UTA facility and grounds cover an area of approximately 28 acres and are located between Linden Avenue and the west side of the Muskingum River, as presented on Figure 1-2. The Site is underlain by approximately 64 to 87-feet of unconsolidated deposits consisting of fill material, glacial outwash, and alluvial sediments. The predominantly clay fill varies in thickness from 0 to 16 feet and is present over much of the Site, with the thickest accumulation along the eastern edge of the property. Beneath the fill, the unconsolidated sediments consist of clayey alluvium, sand and gravel alluvium and brown and gray outwash sand. These materials are underlain by bedrock consisting predominantly of interbedded shale and mudstone.

In July 1983, UTA installed a groundwater extraction and treatment system at the Site consisting of four groundwater extraction wells and an air stripper for treatment as an Interim Remedial Measure (IRM) to address impacted groundwater. The IRM has been in operation since 1983 and continues to extract impacted groundwater at the Site. Under the current pumping conditions, the Site groundwater table is approximately 40 to 45 feet below ground surface (bgs) and is situated in the middle portion of the brown sand unit. The aquifer consists of the lower half of the brown sand unit and the lower gray sand and gravel zone and is capable of yielding large quantities of water (Geraghty & Miller, 1990). The City of Zanesville, Ohio (City) supplies its municipal water requirements from these unconsolidated sediments, extracting an average of 2,155 million gallons of water annually from the City well field located on the east bank of the Muskingum River (City of Zanesville records).

### 1.2.2 Background/Regulatory Status

The municipal well field for the City was found to be impacted with volatile organic compounds (VOCs), consisting of TCE and 1-2 DCE, in 1981. Based on this finding, site investigations were performed to identify the source and to define the extent of impacted groundwater. The Site investigations included soil borings, monitoring well installations, and soil and groundwater sampling activities. In addition to the site investigations,

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source removal activities were initiated and the IRM was installed to hydraulically contain the impacted groundwater. In September, 1983, the Site was placed on the National Priorities List (NPL). In 1985, an initial

soil vapor extraction system was implemented to supplement the groundwater remediation system.

In August 1988, the USEPA, the Ohio Environmental Protection Agency (OEPA) and UTA entered into an

"Administrative Order by Consent" to perform a Remedial Investigation/Feasibility Study (RI/FS) at the Site.

As part of the RI/FS, additional investigations were performed to further characterize the Site. These

investigations included the collection and analysis of soil samples, soil vapor samples, groundwater and surface

water samples, and the installation of additional monitoring wells. A "Remedial Investigation" (RI) report was

approved in September, 1990, and a "Feasibility Study" (FS) was completed in July, 1991. The "Record of

Decision" (ROD) for the Site was issued by the USEPA on September 30, 1991.

A Consent Decree including the "Statement of Work" (SOW) for the Remedial Design/Remedial Action at the

Site was executed on September 4, 1992 between the USEPA and UTA. The major remedial action components

identified in the SOW included fence installation, institutional controls and deed restrictions, pre-design studies,

installation and operation of a groundwater monitoring program for remedial action, installation and operation

of a groundwater interceptor well system, installation and operation of a groundwater treatment system,

installation and operation of an in situ soil vapor extraction system, and installation and operation of a soil

washing treatment system.

On March 12, 1993, a "Remedial Design Work Plan" (RD Work Plan), prepared by Geraghty & Miller Inc.

(G&M), was submitted to and approved by the USEPA for the performance of the activities specified in the

SOW. This RD Work Plan described the required activities and procedures to fulfill the requirements of the

SOW. The RD Work Plan provided details of the Pre-Design activities to be completed to address various design

related data gaps identified during the RI/FS.

SECOR International Incorporated (SECOR) was retained by UTA to complete the final design activities for the

Site. SECOR prepared and submitted the Inorganic Soil Removal Work Plan on July 21, 1995, the "Prefinal

Design Document for the Zanesville Well Field Site" on September 12, 1995 (Pre-Final Design) and Final

Design on October 6, 1995 to the USEPA and the OEPA. The Inorganic Soil Removal Work

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Plan presented a modified inorganic soil removal methodology to the ROD which is discussed in detail in Section

2.0. The Prefinal Design and the Final Design presented the design and construction specifications for

installation of the AS/SVE remediation system action alternative.

1.3 **DOCUMENT OVERVIEW** 

Section 2.0 presents a summary of the Inorganic Soil Removal Work Plan and variances to that work plan which

were made during its implementation. Section 3.0 presents a summary of the AS/SVE system design, variances

to the design made during construction, as-constructed design drawings, monitoring requirements and an

operation and maintenance summary.

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### 2.0 INORGANIC SOIL REMOVAL

This section provides a brief overview of the background of the inorganic soil removal, summary of the scope of work outlined in the Inorganic Soil Removal Work Plan prepared by SECOR and a summary of the variances to the implementation of the Inorganic Soil Removal Work Plan. The work performed in completing the inorganic soil removal is summarized in the July 31, 1996 "Inorganic Soil Removal Summary Report" (Inorganic Soil Removal Summary Report) which is included in Attachment 1. The Inorganic Soil Removal Summary Report presents the methodologies utilized to complete the Inorganic Soil Removal Work Plan, confirmation soil sampling locations and laboratory analytical results. The inorganic soil removal was completed according to the specifications outlined in the Inorganic Soil Removal Work Plan.

### 2.1 BACKGROUND OF INORGANIC SOIL REMOVAL

During the Remedial Investigation, several locations were discovered that exhibited inorganic constituents in excess of the soil clean-up criteria specified in the September 30, 1991 ROD. During the implementation of the RD Work Plan, these areas were investigated further in an effort to define the inorganic soil impacts. This additional investigation was performed due to inorganic constituents of concern being detected above the inorganic soil performance criteria that were calculated during the Remedial Investigation. The soil sampling was also performed to determine if the volume of inorganic impacted soil was sufficient to make the soil washing remedial alternative feasible as specified in Section VIII. of the ROD (soil remediation alternative S-6). Because of the isolated occurrence of inorganic compounds in soils above the clean-up criteria presented in the February 16, 1995 "30% Design Report for the Zanesville, Ohio Well Field Site" (30% Design Report) approved by the USEPA on June 15, 1995, the selected inorganic remediation alternative in the ROD of soil washing (alternative S-6) was determined to be inappropriate. The volume of soil associated with the inorganic impacts exceeding the clean-up criteria was estimated to be small and it was determined to be more effective to implement soil treatment alternative S-4B of the ROD, Limited Excavation and Disposal.

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A review of the soil and groundwater clean-up criteria was made to determine the areas with impacts above the clean-up objectives. Section VII. 3 of the ROD indicates that the specified soil clean-up criteria may be evaluated in order "to better determine the clean-up values", by performing soil and leachate modeling with site specific soil data. Based upon modeling parameters agreed on by the USEPA, OEPA, and UTA, newly established inorganic soil clean-up criteria were determined. The inorganic soil clean-up criteria for barium, cadmium, copper, lead, manganese, mercury, and zinc were modified in a letter from the USEPA dated February 13, 1995. The newly established soil clean-up criteria for inorganic compounds of concern are as follows:

### Inorganic Soil Clean-Up Criteria

Barium = 5,500 mg/kg

Cadmium = 39 mg/kg

Copper = 2,900 mg/kg

Lead = 400 mg/kg

Manganese = 1,200 mg/kg

Mercury = 23 mg/kg

Zinc = 23,000 mg/kg

Soil containing lead, manganese and zinc concentrations which exceeded the revised inorganic soil clean-up criteria was determined to be present and the excavation and off-site disposal strategy was approved by the USEPA.

SECOR prepared and submitted the Inorganic Soil Remediation Work Plan to the USEPA and the OEPA on July 21, 1995. The Inorganic Soil Remediation Work Plan provided the procedures and guidelines necessary to remediate soil in areas where lead, manganese and zinc concentrations had been detected at levels in excess of the inorganic soil clean-up criteria. Since the extent of the metal-impacted soil was limited, the Site remedy consisted of excavation of the impacted soil exhibiting metal concentrations above the clean-up criteria and off-site disposal at a non-hazardous waste landfill.

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The inorganic impacted soil removal activities began on October 30, 1995 and were completed on December 8, 1995 in accordance with the procedures and guidelines set forth in the approved Inorganic Soil Removal Work Plan dated July 21, 1995.

#### 2.2 INORGANIC SOIL REMOVAL WORK PLAN SUMMARY

The scope of the inorganic impacted soil remediation work plan was to excavate and dispose of approximately 304 in-place cubic yards of soil from four separate excavation areas. Excavation of this volume of soil was expected to remove the soil with concentrations of lead, manganese and zinc above their respective clean-up criteria. As presented in Section 2.1, the soil clean-up criteria for lead, manganese and zinc are as follows:

• Lead 400 mg/kg

Manganese 1,200 mg/kg

Zinc 23,000 mg/kg

The volume of soil that was estimated to be excavated from each area is presented in Table 2-1. The estimated volume of soil to be excavated was determined based on the results obtained during completion of the Pre-Design Studies and the revised inorganic soil clean-up criteria.

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### TABLE 2-1

### Summary of Inorganic Impacted Soil Zanesville Well Field Site

		(	Concentra (mg/kg		Estimated I	Extent of	Impacts
					Area	Depth	Volume
RI ID	RI ID	Pb	Mn	Zn	(Ft. x Ft.)	(Ft.)	(CY)
Area 1	B-17	BL	BL	31250	10 x 10	10	37
	B-18	517	BL	BL	10 x 10	4	15
	B-19	401	BL	BL	10 x 10	10	37
Area 2	B-13	1450	BL	BL	10 x 10	10	37
Area 3	B-6	799	BL	BL	<u>10</u> x 10	14	52
	B-7	BL	3810	BL	10 x 10	14	52
Area 4	B-2	1380	1270	BL	10 x 10	10	37
	B-4	BL	2520	BL	10 x 10	10	37
	TOTA	AL ESTI	MATED	VOLUME	OF IN-PLACE	SOIL	304

Notes: BL = Below Limit - Metal constituent was not detected in this boring at levels in excess of the soil clean-up criteria.

RI ID = Area and boring location identification used during the remedial investigation.

CY = Cubic yard.

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A summary of the work plan activities that were implemented to complete the inorganic soil removal are listed

below:

1. The anticipated horizontal extent of soil impacts at the four areas (Area 1, Area 2, Area 3 and Area 4)

known to contain concentrations of zinc, lead, and/or manganese above the soil clean-up criteria were

staked out.

2. Representative impacted soil was characterized for off-site disposal and landfill approval was obtained.

3. Soil within each staked out area was excavated and disposed off-site at a non-hazardous waste landfill.

4. Soil samples were collected to confirm that the limits of excavation defined for each area resulted in the

removal of soil impacted above the clean-up criteria.

5. The extent of soil excavations in each area were modified, when necessary, based on the results of the

soil analyses.

6. The excavated areas were backfilled with compacted clean fill material following soil removal. Each

area was graded upon completion of backfilling activities.

7. The soil excavation equipment was decontaminated prior to leaving the Site.

2.3 VARIANCES TO INORGANIC SOIL REMOVAL

As previously discussed, the Inorganic Soil Removal Work Plan presented the methodology for completing the inorganic soil remediation. The remediation activities were completed in accordance with the specifications and

methods outlined in the Inorganic Soil Removal Work Plan. SECOR prepared the Inorganic Soil Removal

Summary Report which describes the field activities, soil sampling methodologies, laboratory analytical results

and soil disposition, as well as the variances from the Inorganic Soil Removal Work Plan. This section provides

a summary of the variances that were required to complete the inorganic soil remediation. The volume of soil

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to be excavated was estimated to be approximately 304 cubic yards in the Inorganic Soil Removal Work Plan.

The actual volume of soil excavated to achieve the inorganic soil clean-up criteria was approximately 1, 880 cubic

yards. The volume of soil excavated from each area and the requirements for the completion of additional soil

excavation, respective of the individual areas, is summarized in the following sections.

2.3.1 Area 1 Soil Excavation

The volume of inorganic impacted soil excavated from Area 1 was substantially greater than the estimated

volume of 89 cubic yards. Due to elevated concentrations of lead in confirmation soil samples collected from the

limits of the initial excavation area, a total of 1,481 cubic yards of soil was excavated in order to remove

inorganic impacted soil in excess of the inorganic soil clean-up criteria. A detailed summary of the soil

excavation activities, confirmation soil sampling and backfilling procedures is provided in the Inorganic Soil

Removal Summary Report that is provided in Attachment 1.

2.3.2 Area 2 Soil Excavation

The volume of inorganic impacted soil excavated from Area 2 varied from the 37 cubic yards of soil estimated

for excavation in the Inorganic Soil Removal Work Plan. A total of 65 cubic yards of soil was excavated from

Area 2. The majority of the excess soil excavated was the result of excavating to a depth of 14 feet bgs as

compared to the 10 foot depth originally estimated. The depth of the excavation was increased based on visual

observation of the soil encountered during the excavation process. Confirmation soil samples indicated that

removal of inorganic impacted soil in excess of the soil clean-up criteria had been achieved. A detailed summary

of the soil excavation activities, confirmation soil sampling and backfilling procedures is provided in the

Inorganic Soil Removal Summary Report that is provided in Attachment 1.

2.3.3 Area 3 Soil Excavation

The volume of inorganic impacted soil excavated from Area 3 varied from the 84 cubic yards of soil estimated

for excavation in the Inorganic Soil Removal Work Plan. A total of 156 cubic yards of soil was excavated from

Area 3. The additional soil was excavated based on visual observation and the presence of colored tile fill

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material. A detailed summary of the soil excavation activities, confirmation soil sampling and backfilling procedures is provided in the Inorganic Soil Removal Summary Report that is provided in Attachment 1.

2.3.4 Area 4 Soil Excavation

The volume of inorganic impacted soil excavated from Area 4 varied from the 74 cubic yards of soil estimated for excavation in the Inorganic Soil Removal Work Plan. A total of 178 cubic yards of soil was excavated from Area 4. The additional soil was excavated due to concentrations of manganese present in confirmation soil samples collected from the limits of the initial excavation which exceeded the inorganic soil clean-up criteria. A detailed summary of the soil excavation activities, confirmation soil sampling and backfilling procedures is provided in the Inorganic Soil Removal Summary Report that is provided in Attachment 1.

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### 3.0 AS/SVE SYSTEM

### 3.1 BACKGROUND OF ORGANIC IMPACTED SOIL

The results of the Pre-Design Studies performed by SECOR and G&M were used to design the AS/SVE System. The VOC impacted soil was divided into three different lithologies, the shallow mixed fill material, the shallow silty sand material and the deep zone soil. The VOC impacted groundwater was characterized by groundwater sampling performed by G&M in 1993 and by SECOR in 1994 and 1995.

The results of the "Preliminary Pre-Design Data Report for the Organic Impacted Soils Investigation" prepared by G&M in November of 1993, did not identify any new source areas of VOCs. The only source areas identified by the Pre-Design Studies included the Drum Storage Area and the northeast corner of the main building. The former Bulk Storage Area, the Dug Well, and the North Catch Basin Area are in close proximity to the northeast corner of the main building and represented the suspected sources in this area. As a result of these conclusions, the shallow SVE system was designed to focus on the Drum Storage Area and at the northeast corner of the main building. The deep SVE system was designed to provide soil vapor extraction from areas of suspected deeper zone soil impacts and to provide for the extraction of vapors produced through operation of the air sparging system.

Air Sparging was proposed by UTA as a more effective method of restoration of the aquifer in the "Pilot Test Conceptual Design Plan" (G&M 1993). Although not specified as a remedial option in the SOW or the RD Work Plan, the USEPA approved the Pilot Test Conceptual Design Plan, which included the completion of an Air Sparging Pilot Test to evaluate the potential application of this technology to expedite remediation of the impacted aquifer.

The results of the AS Pilot Testing were successful and were presented in the 30% Design Report. Based on the results of the AS Pilot Testing, an AS/SVE system was designed to remediate the organic impacted soil and groundwater. The groundwater remediation system design was based on the results of groundwater modeling,

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groundwater sampling and analysis, the historical performance of the Interim Groundwater Extraction and Treatment System, and the results of the AS/SVE pilot tests that were performed. The AS system was designed to remediate suspected source areas of VOCs in the groundwater.

SECOR prepared and submitted the Pre-Final Design on August 3, 1995 and the Final Design on October 6, 1995. The Final Design was approved by the USEPA on October 18, 1995 and provided the design specifications for installation of the AS/SVE system. The Final Design included responses to USEPA comments to the Pre-Final Design, Technical Specifications, Preliminary Construction Schedule, Construction Quality Assurance Project Plan, Construction Cost Estimate, Health and Safety Plan Addendum and Design Drawings.

The organic soil clean-up criteria for TCE, 1,2 cis-DCE, and 1,2 trans-DCE and the inorganic soil clean-up criteria for barium, cadmium, copper, lead, manganese, mercury, and zinc were modified in a letter from the USEPA dated February 13, 1995. The new soil clean-up criteria for organic compounds of concern are as follows:

### Organic Soil Clean-Up Criteria

TCE

= 70 ug/kg

1,2 cis-DCE

980 ug/kg

1,2 trans-DCE

1,400 ug/kg

3.2 DESCRIPTION OF AS/SVE SYSTEM

The AS/SVE system was designed and installed to address soil and groundwater impacted with TCE and 1,2-DCE in excess of the revised organic soil and groundwater clean-up criteria for the Site. This section presents a brief description of the AS/SVE system installed in accordance with the requirements set forth in the Final Design Report. The As-constructed Design Drawings are provided in Attachment 2. The AS/SVE system includes the following major components:

• A total of 16 in situ soil vapor extraction wells (7 completed in the shallow mixed fill, 4 in the shallow silty sand, and 5 in the deep sandy soil) and associated well head vaults;

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• A total of 5 nested air sparge wells, 1 single air sparge well and associated well head vaults;

Approximately 5,500 linear feet of conveyance piping; and

• AS/SVE equipment and equipment enclosure.

Construction activities associated with the installation of the AS/SVE system began on October 30, 1995. The Pre-Final Inspection was performed by the USEPA on March 20, 1996. SECOR submitted the Pre-Final Inspection Report on April 18, 1996 and performed the Final Inspection with the USEPA and the OEPA on April 24, 1996. Start-up of the SVE system was performed on April 24, 1996 and start-up of the AS system was performed on June 11, 1996 following approximately one month of SVE system operation.

3.3 VARIANCES TO AS/SVE REMEDIAL SYSTEM DESIGN

The AS/SVE system installation was completed according to the technical specifications and design drawings presented in the Final Design. During construction activities, various modifications to the design were implemented to improve the performance and constructability of the AS/SVE system. This section provides a summary of the variances to the Final Design. As-constructed Drawings are provided in Attachment 2 that

present the completed AS/SVE system installation.

3.3.1 SVE Well Installation Variances

The Final Design specified the well construction details for the AS/SVE system. The well construction specifications were based on soil borings completed during the Pre-Design Studies. These specifications were subject to field modification during drilling activities performed during the AS/SVE system installation. Modifications to the well completion details in the design specifications were based on soil conditions encountered at the respective SVE well locations. During installation of the shallow mixed fill and shallow silty sand wells, soils were continually sampled and soil conditions were logged to the termination depth of each boring. The continuous soil sampling was performed to identify the actual depth and thickness of the shallow mixed fill and shallow silty sand soil. The as-constructed well completions details are presented on Drawing Y3 of the As-constructed Design Drawings which are included in Attachment 2. Small changes (1 to 2 feet) in the

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depth and length of screen were made for SVE wells VE-1SMF, VE-2SMF, VE-3SMF, VE-5SMF, VE-6SMF, VE-7SMF, VE-8SS, VE-10SS, VE-11SS and VE-12SS. Shallow silty sand well VE-9SS was not installed as a result of the soil sampling which indicated the silty sand was not present in the proposed location of this well. Construction logs of the SVE wells installed as part of the AS/SVE system installation are presented in

Attachment 3.

3.3.2 AS Well Installation Variances

The Final Design specified the well construction details for the AS wells. The well construction specifications were based on soil borings completed during the Pre-Design Studies. These specifications were subject to field modification during drilling activities performed during the system installation. Modifications to the well completion details in the design specifications were based on soil conditions encountered at the respective AS well locations. AS wells were continually sampled beneath the water table to ensure that a relatively low permeability soil zone did not exist that would inhibit the performance of the AS system. The continuous soil sampling during the installation of the AS wells indicated that the soil beneath the water table was relatively

uniform in gradation and suitable for air sparging.

The Final Design specified the installation of a total of 4 new AS wells screened from 67 to 72 feet bgs and the use of the existing AS well, installed for completion of the AS Pilot Testing activities, screened from 70 to 72 feet bgs. The actual AS well construction activities included the installation of four additional shallow AS wells nested in the locations of the four new AS wells. Additionally, one new AS well location was installed to provide enhanced coverage of the impacted area. This AS well was also completed as a combined shallow and deep AS well. A total of 5 shallow AS wells (SP-2S, SP-3S, SP-4S, SP-5S and SP-6S) and 6 deep AS wells including the Pilot Test AS well (SP-1D, SP-2D, SP-3D, SP-4D, SP-5D and SP-6D) were completed for utilization by the AS system. The shallow AS wells were completed with a screened interval from 50 to 55 feet bgs. The location of the AS wells are indicated on drawing Y2 and the well completion details are presented on Drawing Y3 of the As-constructed Drawings (Attachment 2). AS well construction logs are presented in Attachment 3.

The shallow AS wells were completed with 1-inch diameter schedule 40 polyvinyl chloride (pvc) well screen and casing rather than the 2-inch diameter pvc well screen and casing used in the deep AS wells. The 1-inch diameter

pvc was used for the shallow AS wells to enable the nesting of these wells in the deep AS well boreholes. AS

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wells SP-4S and SP-4D could not be completed as nested wells and separate boreholes were completed for each

well installation at this location.

3.3.3 Trenching and Piping Installation Variances

Minor modifications of the conveyance piping locations for the AS/SVE system were required during construction

as compared to those presented in the Final Design. The requirement for the piping location modification resulted

primarily from the existence of underground structures from previous buildings in the area.

The trench running North-South from VE-17D and VE-7SMF was moved away from the UTA building and

placed along the western edge of the access road. This trench location was moved to avoid saw-cutting heavily

reinforced concrete. The final trench location is presented on Drawing Y2 of the As-constructed Drawings which

are included in Attachment 2.

Other trenching and piping modifications were made in the location where the trenches approached the equipment

enclosure. The AS piping was re-routed through trenching to the north side of the equipment enclosure so the AS

pipes could be located on the inside of the north wall of the equipment enclosure. The shallow mixed fill and silty

sand SVE pipes were installed in a trench along the south side of the equipment enclosure so the manifold could

be located on the inside of the south wall of the equipment enclosure. The deep zone SVE piping was installed

in a trench located on the north side of the equipment enclosure towards the east corner. This allowed the deep

zone SVE manifold to be installed inside the northeast corner of the equipment enclosure.

The SVE and AS pipes were brought to grade outside rather than inside the equipment enclosure and taken

through the sidewall of the building to the interior. An insulated weatherproof box was constructed around the

AS/SVE pipes on the exterior of the building. This provided for a much lower manifold installation compared

to installing the SVE and AS pipes through the floor of the enclosure, and prevented penetration of the building

foundation wall by the large number of AS/SVE conveyance pipes.

A pvc ball valve was installed underground at the well heads of the AS and SVE wells to provide for pressure

testing of the AS and SVE pipes. The AS and SVE piping was pressure tested in accordance with the Technical

Specifications and met the requirements specified.

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United Technologies Automotive Zanesville Well Field Site

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3.3.4 Equipment Enclosure Variances

Several modifications were made to the interior of the equipment enclosure to provide for changes in the

dimensions of major equipment that arrived on-site and the changes to the AS and SVE manifolds.

The aftercooler for the AS system was significantly larger than indicated in the Final Design and the layout of

the AS system was modified accordingly. The aftercooler was moved from the designed wall mount location

above the shallow SVE manifold to a floor mounted location adjacent to the AS compressor (C-1). The AS

manifold was installed on the inside of the north side of the enclosure to the west of the overhead garage door and

the AS compressor was installed between the aftercooler and the AS manifold. A temperature controlled exhaust

fan was installed above the shallow SVE manifold to provide for excess heat removal from the building as a result

of the relocated aftercooler. The locations of the AS equipment are presented on Drawing M-1 of the As-

constructed Drawings included in Attachment 2.

The shallow zone SVE piping was modified to eliminate VE-9SS since it was not installed, as discussed in

Section 3.3.1. The underground piping was brought to grade outside the enclosure and installed through the

sidewall of the enclosure. The final location of the shallow zone SVE blower (B-1) was slightly modified to

accommodate the equipment delivered to the site. The actual equipment layout is presented on Drawing M1 of

the As-constructed Drawings included in Attachment 2.

The deep zone SVE system equipment was slightly modified to accommodate the relocation of the manifold to

the inside of the east end of the north wall of the enclosure. The actual equipment layout is presented on Drawing

M1 of the As-constructed Drawings included in Attachment 2.

The structural design of the equipment enclosure was modified to include a concrete block foundation rather than

a formed and placed concrete foundation. The footer for the enclosure was completed according to the

specifications and drawings and the concrete block foundation design was reviewed by a licensed structural

engineer.

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United Technologies Automotive Zanesville Well Field Site

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### 4.0 REMEDIAL ACTION MONITORING

Remedial Action monitoring will include monitoring of the AS/SVE system performance and monitoring the site-wide groundwater concentrations on UTA property and off UTA property. An initial AS/SVE system start-up monitoring program was presented in the Pre-Final Inspection report dated April 18, 1996. A site-wide monitoring program was prepared by SECOR and presented in the "AS/SVE Operation and Maintenance Plan" (O&M Plan).

Prior to initiating the AS system, a baseline groundwater sampling event was performed on a select number of groundwater wells during the weeks of June 3, 1996 and June 10, 1996. The data will be used as the baseline information for the respective wells to determine the effectiveness of the AS/SVE system. Baseline field monitoring was also performed for dissolved oxygen, oxygen reduction potential, pH, temperature and water level for the selected wells. During the first month of operation, the field parameters were monitored twice per day during the first week and once per week for the remaining three weeks of the first month. The AS system initially operated the shallow sparge points to evaluate the shallow AS well performance. During the six month evaluation period, the AS system will be evaluated to determine if cycling between select AS wells and/or if the deep AS wells should be used to enhance the VOC removal rate. Operation of the AS/SVE system including groundwater sampling and soil vapor sampling, is summarized in the O&M Plan. The following sections present a summary of the monitoring program for the AS/SVE system and the site-wide groundwater monitoring program.

### 4.1 SVE SYSTEM PERFORMANCE MONITORING

Performance monitoring will be conducted to evaluate the effectiveness of the shallow and deep SVE systems. Field monitoring and laboratory analysis will be performed to collect performance data on the SVE system. The field monitoring will include: measurement of the system operating vacuums, pressures and flow rates; measurement of vacuum influences in the vadose zone monitoring points; measurement of VOC concentrations in the soil vapor with a PID; and monitoring the TCE concentration with Draeger Tubes. Table 4-1 lists the locations that will be monitored and their monitoring frequency.

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United Technologies Automotive Zanesville Well Field Site

TABLE 4-1 **SVE System Monitoring Schedule** United Technologies Automotive Zanesville, Ohio Well Field Site

	Soil Vapor Monitoring Frequency and Parameters									
Sampling Location	Week 1	Weeks 2-4	Months 2-6		Pa	rameters		-		
	(daily)	(weekly)	(monthly)	VOCs (PID)	VOCs (Draeger Tube)*	Summa Canister**	Vacuum	Flow Rate		
Vapor Extraction Wells			L							
VE-1SMF	2	2	1	x	x*	x**	Х	х		
VE-2SMF	2	2	1	x	x*	X**	×	х		
VE-3SMF	2	2	1	X	x*	x••	Х	х		
VE-4SMF	2	2	1	X	x*	X**	X	X		
VE-5SMF	2	2	1	X	x*	x**	Х	x		
VE-6SMF	2	2	1	×	х*	X**	X	х		
VE-7SMF	2	2	1	X	х*	X**	x	X		
VE-8SS	2	2	1	X	X*	x**	X	X		
VE-10SS	2	2	_ 1	X	X*	X**	X	Х		
VE-11SS	2	2	1	х	χ*	X**	X	x		
VE-11SS	2	2	1	x	x*	X**	Х	Х		
VE-12SS	2	2	1	x	x'	x**	×	х		
VE-13D	2	2	1	×	x*	x**	x	Х		
VE-14D	2	2	1	X	x*	x**	х	X		
VE-15D	2	2	1	X	x'	x**	х	х		
VE-16D	2	2	1	X	x"	x**	X	x		
VE-17D	2	2	1	x	x*	x**	X	Х		
Vadose Zone Monitoring Points			1							
DS-1S	2	1					X			
DS-1I	2	1					X			
DS-1D	2	1					×			
DS-2S	2 2	1					х			
DS-2I	2	1					x			
DS-2D	2	1					X			
DS-3S	2	1					X			
DS-31	2	1				-	×			
DS-3D	2	1					x			
DS-4/I4-4S	2	1		_			Х			
DS-4/I4-4I	2	1					X			
DS-4/I4-4D	2	1					X			
MB-1S	2	1					X			
MB-1I	2	1					×			
MB-1D	2	1					×			
MB-2S	2	1			.,		×			
MB-2I	2	1					×			
MB-2D	2	1					×			
MB-4/I4-3S	2	1					×			
MB-4/I4-3I	2	1					×			
MB-4/I4-3D	2	1					×			
14-1S	2	1					x			
14-11	2	1	<del>-</del>				X	· · · · ·		
14-1D	2	1	<del>-</del>	<del></del>	<u></u>	· · · · · · · · · · · · · · · · · · ·	x			
14-28	2	1					×			
14-21	2	1		<del></del>			×	l		
14-2D	2	1					×	<u> </u>		

<sup>\* =</sup> Draeger tubes will be collected from 10% of the vapor extraction wells, and the carbon influent to compare PID readings
\*\* = Summa Canister will be collected from the carbon effluent once per month to verify VOC emissions

NI = Not Installed

OMFNLrev WB1

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Individual SVE wells will be monitored from the manifolds inside the equipment enclosure. This data will be

used to optimize VOC removal rates, document the overall mass of VOCs removed by the system and monitor

the vapor phase carbon off-gas treatment efficiency.

4.2 AS SYSTEM PERFORMANCE MONITORING

Performance monitoring will be conducted to evaluate the effectiveness of the AS system. Monitoring will

include: air injection pressures, temperatures and flow rates; groundwater field monitoring of oxidation reduction

potential (redox), dissolved oxygen, pH, conductivity, temperature and water level; and groundwater sampling

and laboratory analysis for VOCs, nitrate, sulfate, and carbonate.

The extracted soil vapor concentration will continue to be monitored from the SVE system. An increase in the

soil vapor concentrations extracted from the deep zone may be observed during the AS system startup. This

increase in soil vapor concentration may represent the VOC mass removal rate from the groundwater by the AS

system. Table 4-2 lists the field monitoring frequency and groundwater sampling frequency of the AS monitoring

probes as well as a select number of monitoring wells. The data collected from the monitoring wells and

monitoring points identified in Table 4-2 will be integrated into the database of the site groundwater monitoring

plan which is described in Section 4.3.

4.3 GROUNDWATER MONITORING PLAN

This groundwater monitoring plan is designed to generate sufficient source area and associated groundwater

constituent concentration reduction data to document the effectiveness of the AS/SVE system and Groundwater

Extraction & Treatment system during the first year of operation. The data collected will also accommodate the

implementation of transport model simulations that will be performed after approximately 12 months of AS/SVE

system operation. The plan will assist in monitoring the VOC removal rate from the groundwater as a result of

implementation of the AS/SVE system and continued use of the Groundwater Extraction & Treatment system.

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United Technologies Automotive Zanesville Well Field Site

Table 4-2
Air Sparging System Monitoring Schedule
United Technologies Automotive
Zanesville, Ohio Well Fleid Site

	<u></u>			ling Frequency			J		Fie	ld Monitoring	Frequer	cy and	Param	eters		
Sample Location	AS Start Up	Months 1-3	Months 4-6			meters	Week 1			Months 4-6				Parameters		
	(Baseline)	<u> </u>	<u></u> .	VOCs (601)	Metals	NO2, SO4, CaCO3	(Daily)	(Weekly)	(Monthly)	(Quarterly)	Redox	DO	рΗ	Conductivity i	Temp	Water Leve
Shallow Wells			1				77.77.77.77									0.000
B-2C	1	M(3)	Q(1)	X	××	X	2	11	11	1	X	X	×	x	×	i X
B-3B	1	Q(1)	Q(1)	Х	xx				I			1	Ï			!
B-4C	1	M(3)	Q(1)	X	xx	x	2	1	_ 1	1 1	X	į x	X	X	×	X
B-6B	1	Q(1)	Q(1)	X	xx		_i(	L				i —	)	:		1
B-7C	1	Q(1)	Q(1)	x	xx						Ĭ		<u> </u>	:		1
B-12A	1	Q(1)	Q(1)	X	××		i .				Ī _	]				
B-13B	1	Q(1)	Q(1)	X	xx				I			<u> </u>				1
B-15	1	M(3)	Q(1)	X	XX I	x	2	11	1	1	i ×	X	×	×	×	X
8-16	11	M(3)	Q(1)	X	xx i	x	2	1	1	1 1	X	X	×	X	×	×
B-17	1	M(3)	Q(1)	X	xx	x	2	1	11	11	X	X	X	X	×	×
B-18	11	M(3)	Q(1)	x	_xx	x	2	1	1	1	x	x		X	X	X
ntermediate Wells																
B-1A	1	M(3)	Q(1)	×	xx	X	2	1 1	1	1	×	X	×	X	×	; X
B-28	1	M(3)	Q(1)	X	xx	X	2	1	1	1	X	i X	×	X .	×	×
B-3A	1	Q(1)	Q(1)	х	xx							i				
B-4B	1	M(3)	Q(1)	x	xx	X	2	1	1	1	×	X	×	X	×	, x
B-6A	1	Q(1)	Q(1)	Х	xx							:	1			1
B-7B	1	Q(1)	Q(1)	х	xx			i .	i		1	!	i	1		
Jeep Wells																
B-2A	1	M(3)	Q(1)	×	×× i	×	2	1	1	1	X	X	X	X	×	X
B-4A	1	M(3)	Q(1)	X	xx	x	2	1	1	1	×	×	X	×	×	. X
B-5A	1	Q(1)	Q(1)	x	xx				1		1	T	1			
B-24C	1	Q(1)	Q(1)	x	xx			1	!		<del> </del>		1	i		
Sparge Monitoring Wells												100000				<b>i</b>
SM-1	1	M(3)	Q(1)	X	××	X	2	; 1	1	1	×	X	×	X	X	×
SM-2	1	M(3)	Q(1)	x	xx	×	2	1	1	1	×	×	x	x	×	×
SM-3	1	M(3)	Q(1)	x	××	x	2	1	1	1	X	. x	×	, x	×	×
SM-4	<del></del>	M(3)	Q(1)	X	xx	X	2	1 1	1	1	X	X	X	X	. x	×

 $\infty$  = Groundwater samples collected for metals analysis will be performed semi-annually. VOCs = Volatile Organic Compounds Redox = Oxidation/Reduction Potential DO = Dissolved Oxygen

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The groundwater monitoring plan is divided into two phases of activities (Phase I and Phase II). Phase I of the

groundwater monitoring plan will focus on the short term effectiveness of the AS/SVE system to reduce VOC

concentrations in groundwater and will be implemented during the first six months of operation of the AS/SVE

system. Phase II of the groundwater monitoring plan is designed for the collection of longer term remediation

system performance and will be implemented after the first six months of AS/SVE system operation. The Phase

II data will complement the data collected during the Phase I groundwater monitoring.

A review of the pre-design sampling program was completed utilizing the groundwater modeling performed as

part of the Remedial Design and presented in the May 12, 1995 30% Design Report. The groundwater sampling

program was reviewed and modified to focus the groundwater sampling on monitoring the effectiveness of the

Remedial Action. The modified groundwater sampling program is presented in the O&M Plan.

4.3.1 Phase I Groundwater Monitoring

The Phase I groundwater monitoring will be performed during the first six months of AS/SVE system operation.

The groundwater sampling will include a combination of monthly and quarterly sampling and analysis for VOCs

by USEPA Method 601. The methodology used for the collection of groundwater samples will be consistent with

those outlined in the approved Sampling and Analysis Plan that was included in the approved RD Work Plan

dated March 12, 1993. The Phase I on-site wells to be sampled and the frequency of sampling are presented in

Table 4-3 and the Phase I off-site wells and the frequency of sampling are presented in Table 4-4. Figure 4-1

presents the location of the existing on-site and off-site monitoring wells.

4.3.2 Phase II Groundwater Monitoring

The Phase II groundwater monitoring will be performed after the first six months of AS/SVE system operation.

The groundwater sampling will include a combination of quarterly and semi-annual sampling and analysis for

VOCs by USEPA Method 601. The methodology used for the collection of groundwater samples will be

consistent with those outlined in the approved Sampling and Analysis Plan. The Phase II on-site wells to be

sampled and the frequency of sampling are presented in Table 4-5 and the Phase II off-site wells and the

frequency of sampling are presented in Table 4-6. Figure 4-1 presents the location of the existing on-site and

4-5

off-site monitoring wells.

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United Technologies Automotive Zanesville Well Field Site

Zanesville Well Field Site Remedial Action Construction Report Date: July 31, 1996 Section: 4.0 Page 6 of 11

### TABLE 4-3 PHASE I GROUNDWATER SAMPLING SCHEDULE

	ON-SIT	E WELLS	
	SAMPLING	FREQUENCY	ANALYSIS
SAMPLE LOCATION	MONTHLY	QUARTERLY	VOCs (601)
SHALLOW WELLS			
B-2C		x	x
B-3B		х	х
B-4C	x		х
B-6B		x	x
B-7C		x	x
B-12A		x	x
B-13B		x	х
B-16	x		x
B-17	x		x
B-18	x		x
INTERMEDIATE WELLS			
B-1A	x		х
B-3A		x	х
B-4B	x		. x
B-5B		x	х
B-6A		x	х
B-7B		x	x
DEEP WELLS & INTERMEDIATE W	ELLS		
B-2A		x	х
B-5A		x	х
B-24C		x	х
INTERCEPTOR WELLS			<b></b>
I-1	x		x
I-2	x		x
I-3	x		х
I-4	<u>x</u>		x

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# TABLE 4-4 PHASE I GROUNDWATER SAMPLING SCHEDULE OFF-SITE WELLS

CANDIE LOCATION	SAMPLING	FREQUENCY	ANALYSIS
SAMPLE LOCATION	MONTHLY	QUARTERLY	VOCa (601)
SHALLOW WELLS			
C-1A		х	x
C-2A		х	x
C-3A		х	х
INTERMEDIATE WELLS			
C-2B		х	х
C-5		х	х
C-7		х	x
DEEP WELLS & INTERMEDIATE W	ELLS		
C-1C		х	х
C-2C		х	х
C-3C		х	х
C-6		x	х
C-8		х	х
MUNICIPAL WELLS			
W-6	x		×
W-7		х	×
W-12	x		×
W-2		х	×
W-3		х	x

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# TABLE 4-5 PHASE II GROUNDWATER SAMPLING SCHEDULE ON-SITE WELLS

	SAMPLING	FREQUENCY	ANALYSIS  VOCs (601)	
SAMPLE LOCATION	QUARTERLY	SEMI-ANNUAL		
SHALLOW WELLS				
B-2C		x	x	
B-3B		х	x	
B-4C	x		x	
B-6B		х	×	
B-7C		х	x	
B-12A		х	x	
B-13B		х	x	
B-16	х		x	
B-17	х		x	
B-18		х	x	
NTERMEDIATE WELLS				
B-1 A	х		x	
В-ЗА		х	×	
B-4B	Х		х	
B-5B		x	x	
B-6A		x	x	
B-7B		x	x	
DEEP WELLS & INTERMEDIATE	WELLS			
B-2A		х	×	
B-5A		x	×	
B-24C		x	x	
INTERCEPTOR WELLS				
I-1	X		x	
1-2	х		x	
I-3	x		×	
I-4	x		x	

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## TABLE 4-6 PHASE II GROUNDWATER SAMPLING SCHEDULE OFF-SITE WELLS

	SAMPLING	FREQUENCY	ANALYSIS	
SAMPLE LOCATION	QUARTERLY	SEMI-ANNUAL	VOCs (601)	
SHALLOW WELLS				
C-1A		х	х	
C-2A		x	X	
C-3A		х	х	
INTERMEDIATE WELLS				
C-2B		х	х	
C-5		х	X	
C-7		x	х	
DEEP WELLS & INTERMEDIA	TE WELLS			
C-1C		х	х	
C-2C		х	х	
C-3C		х	х	
C-6		х	х	
C-8		х	x	
MUNICIPAL WELLS				
W-6	х		X	
W-7		х	х	
W-12	х		Х	
W-2		х	x	
W-3		x	x	

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### 4.4 OPERATION AND MAINTENANCE PLAN SUMMARY

The O&M Plan was prepared by SECOR and provides procedures for long term operation and maintenance of the AS/SVE system. The AS/SVE system was designed and installed to address soil and groundwater impacted with TCE and 1,2-DCE in excess of the revised organic soil and groundwater clean-up criteria for the Site. The O&M Plan includes the following information:

- A description of the AS/SVE system including AS/SVE wells, conveyance pipelines, equipment enclosure, mechanical equipment, electrical equipment and air emissions treatment;
- As-constructed design drawings;
- Operational procedures for the AS/SVE system;
- · Procedures for site and equipment maintenance;
- Monitoring plan for the AS/SVE system and the groundwater extraction and treatment system;
- · Site monitoring plan including performance and compliance monitoring; and
- Pertinent Health and Safety guidelines.

The following site inspection schedule will be utilized for maintaining the system:

- Daily for the first week of operation;
- Twice per week for the remainder of the first month (three weeks); and
- · Once per month, thereafter.

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During each site inspection, components of the system will be inspected for proper operation. An experienced

operator will conduct the system checks. A field monitoring log will be used to ensure the required inspections

are conducted consistently throughout the duration of the project. The field monitoring logs will be kept in a log

book that will be maintained in the office area. Copies of the blank field monitoring logs are included in the

O&M Plan.

Regularly scheduled maintenance of the equipment will be performed according to the manufacturers

recommendations. The regularly scheduled maintenance will include oil changes, greasing bearings, changing

drive belts and changing filters. A table summarizing the equipment maintenance requirements is provided in

the O&M Plan.

The required performance and compliance monitoring is provided in the O&M Plan. The performance and

compliance monitoring will be performed to evaluate the AS/SVE system and the Groundwater Extraction and

Treatment System operational parameters. The objectives of the performance and compliance monitoring

program are:

1. Ensure the AS/SVE system is operating within design parameters;

2. Collect the necessary data to optimize the AS/SVE system operation;

3. Ensure the interceptor well network obtains capture of VOC impacted groundwater;

4. Ensure treated water effluent from the air stripper meets National Pollution Discharge

Elimination System (NPDES) Permit requirements; and

5. Ensure treated air effluent discharge meets Air Discharge Permit requirements.

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### 5.0 SUMMARY OF REMEDIAL ACTIONS

### 5.1 SUMMARY OF INORGANIC SOIL REMEDIAL ACTION

The inorganic impacted soil remediation was completed according to the Inorganic Soil Removal Work Plan. The confirmation soil sampling results for lead, manganese and lead in Area 1, Area 2, Area 3 and Area 4 were below the revised inorganic soil clean-up criteria. A detailed description of the inorganic soil remedial action is provided in the Inorganic Soil Removal Summary Report included in Attachment 1.

### 5.2 SUMMARY OF ORGANIC SOIL AND GROUNDWATER REMEDIAL ACTION

The organic impacted soil remedial action and the organic impacted groundwater remedial action were completed according to the Final Design dated October 6, 1996. The variances to the AS/SVE system installation are presented in Section 3.0 and the As-constructed Design Drawings are presented in Attachment 2.

**FIGURES** 

Doc Id: 95140

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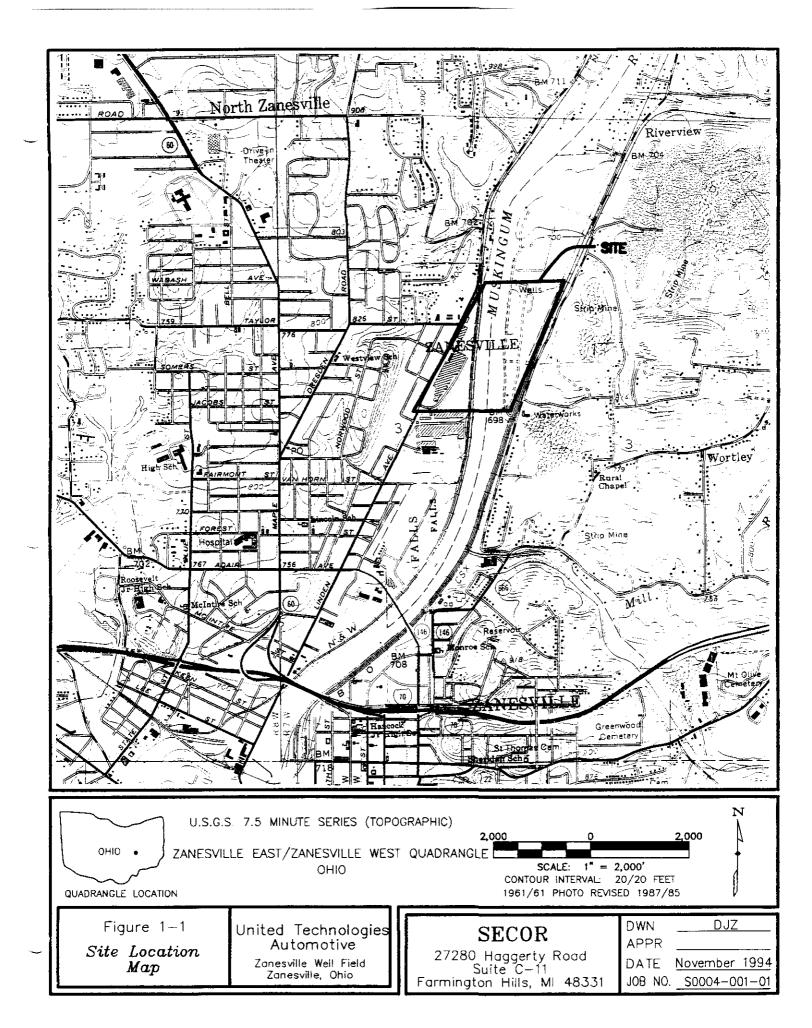
Zanesville Well Field (OH)

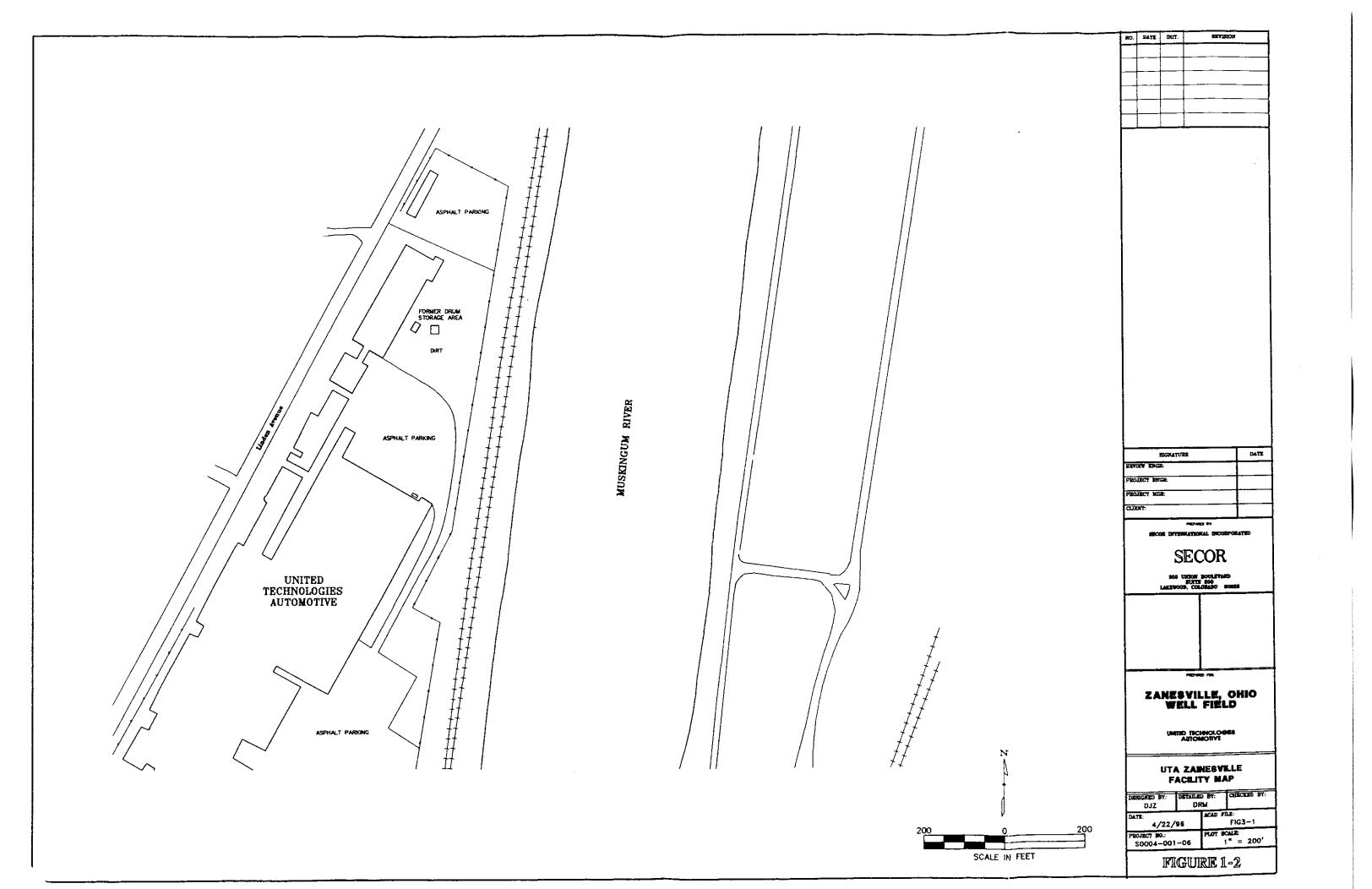
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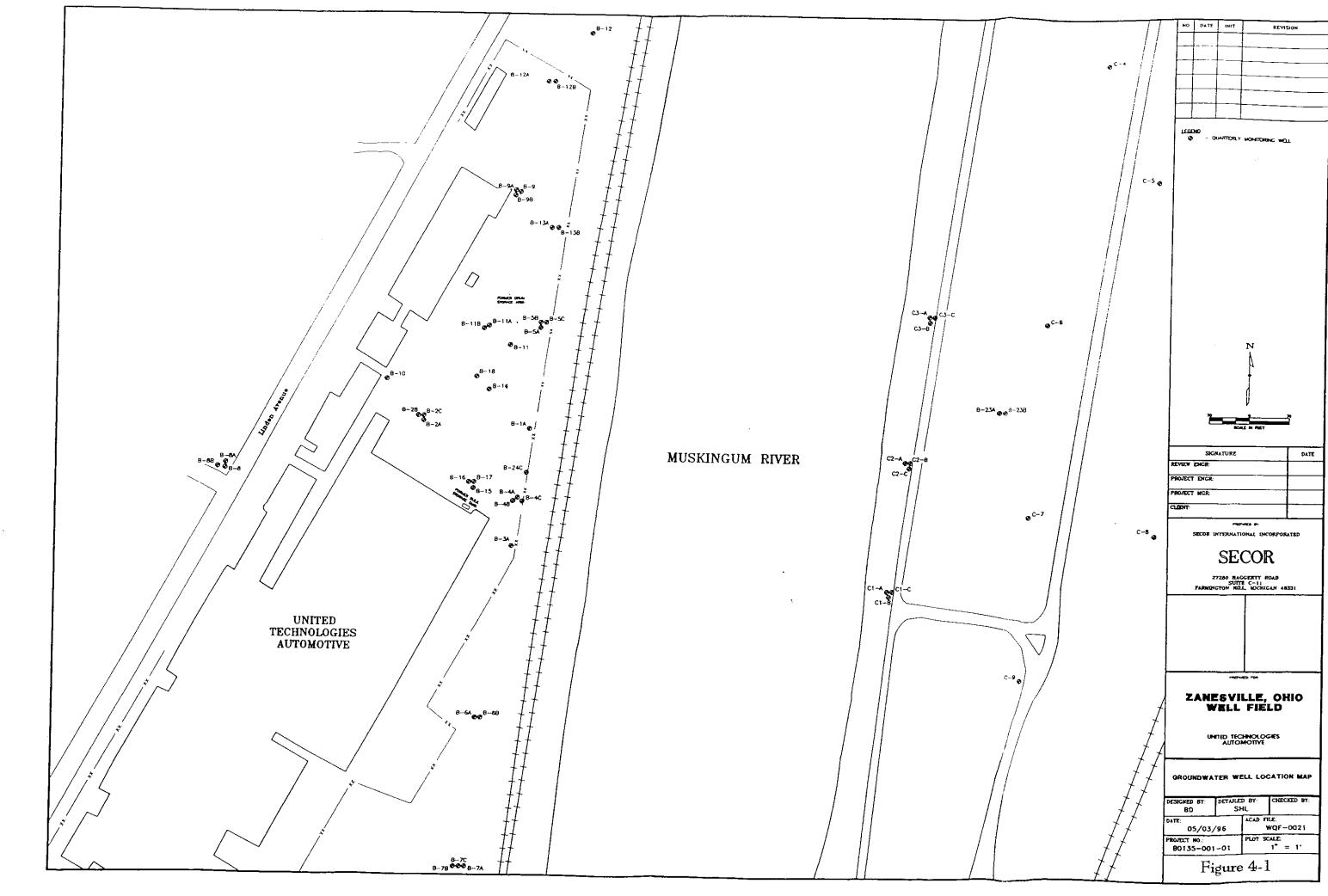
Remediation (K. ///)

Notes:

J. Af









# INORGANIC SOIL REMOVAL SUMMARY REPORT ZANESVILLE WELL FIELD SITE ZANESVILLE, OHIO

July 31, 1996

# Prepared for:

United Technologies Automotive 1641 Porter Street Detroit, Michigan 48216

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SECOR Job No. B0135-001-02

Zanesville Well Field Site Inorganic Soil Removal Summary Report
Date: July 31, 1996
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#### 1.0 INTRODUCTION

#### 1.1 PURPOSE OF REPORT

This report presents a summary of the activities performed for the removal of inorganic impacted soil at the Zanesville Well Field Site (Site) in Zanesville, Ohio. The soil removal was completed in accordance with the procedures and guidelines set forth in the approved "Inorganic Soil Removal Work Plan" (Work Plan) dated July 21, 1995. The removal activities began on October 30, 1995 and were completed on December 8, 1995.

#### 1.2 SITE BACKGROUND

#### 1.2.1 Site Description

The United Technologies Automotive (UTA) property, located at been used for manufacturing purposes since 1893. The original property was owned by American Encaustic Tiling Company, which constructed many of the existing buildings and used the Site to manufacture ceramic products. The Site was occupied until 1962 by a number of companies including Shawnee Pottery, Timken Roller Bearing, General Electric Company, Daroff Corporation, and Surplus Materials Corporation. In 1962, the Site was acquired by Essex Corporation. In 1974, the Essex Corporation was purchased by UTA. The site location is shown on Figure 1-1.

The UTA facility and grounds cover an area of approximately 28 acres and is located between Linden Avenue and the west side of the Muskingum River, as presented on Figure 1-2. The Site is underlain by approximately 64 to 87-feet of unconsolidated deposits consisting of fill material, glacial outwash, and alluvial sediments. The predominantly clay fill varies in thickness from 0 to 16 feet and is present over much of the Site, with the thickest accumulation along the eastern edge of the property. Beneath the fill, the unconsolidated sediments consist of clayey alluvium, sand and gravel alluvium and brown and gray outwash sand. These materials are underlain by bedrock consisting predominantly of interbedded shale and mudstone.

There is a groundwater extraction and treatment system currently operating at the Site that consists of four groundwater extraction wells and an air stripper for the treatment of extracted groundwater. Under the current pumping conditions, the Site groundwater table is approximately 40 to 45 feet below ground surface (bgs) and is situated in the middle portion of the brown sand unit. The aquifer consists of the lower half of the brown sand unit and the lower gray sand and gravel zone and is capable of yielding large quantities of water (Geraghty & Miller, 1990). The City of Zanesville, Ohio (City) supplies its municipal water requirements from these

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unconsolidated sediments, extracting an average of 2,155 million gallons of water annually from the City well field located on the east bank of the Muskingum River (City of Zanesville records).

#### 1.2.2 Background/Regulatory Status

The municipal well field for the City was found to be impacted with volatile organic compounds (VOCs), consisting of trichloroethylene (TCE) and dichloroethylene (DCE), in 1981. Based on this finding, site investigations were performed to identify the source and to define the extent of impacts. The Site investigations included soil borings, monitoring well installations, and soil and groundwater sampling activities. In September 1983, the Site was placed on the National Priorities List (NPL). During a Remedial Investigation (RI), several locations were discovered that exhibited inorganic constituents in soil in excess of the soil clean-up criteria specified in the September 30, 1991 Record of Decision (ROD). During the implementation of a Remedial Design (RD) Work Plan and in accordance with Section III.C.6 of the Statement of Work (SOW), these areas were investigated further in an effort to define the inorganic soil impacts.

The additional investigation included soil sampling and chemical analyses. The soil sampling was also performed to determine if the volume of inorganic impacted soil was sufficient to make soil washing feasible as specified in Section VIII of the ROD (soil remediation alternative S-6). The results of these efforts indicated that the small volume of soil impacted with inorganic constituents did not make soil washing a feasible alternative.

SECOR International Incorporated (SECOR) was retained by UTA to complete the final design activities for the Site. SECOR prepared and submitted to the United States Environmental Protection Agency (USEPA) and the Ohio Environmental Protection Agency (OEPA) the "30% Design Report for the Zanesville Well Field Site, Zanesville, Ohio" (30% Design Report) on February 16, 1995. The 30% Design Report was approved with modifications by the USEPA in a letter dated April 19, 1995. The 30% Design Report recommended that inorganic impacted soil above clean-up criteria be remediated by excavation and off-site disposal as a result of the small volume of impacted soil at the Site. SECOR prepared an Inorganic Soil Removal Work Plan (Work Plan) that was submitted on July 21, 1995.

#### 1.2.3 Soil Performance Criteria

Section VII.3 of the ROD indicates that the specified soil clean-up criteria may be modified based on soil and leachate modeling with Site-specific soil data. Based upon modeling parameters agreed on by the USEPA, OEPA, and UTA, inorganic soil clean-up criteria were modified in a letter from the USEPA dated February 13, 1995. The inorganic soil clean-up criteria which were modified include barium, cadmium, copper, lead, manganese, mercury, and zinc. The modified clean-up criteria for the inorganic constituents of concern are presented in Table 1-1.

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Table 1-1 Modified Inorganic Soil Clean-Up Criteria				
Metal	Concentration (mg/kg)			
Barium	5500			
Cadmium	39			
Copper	2900			
Lead	400			
Manganese	1200			
Mercury	23			
Zinc	23000			

#### 1.2.4 Extent of Soil Impacts

Analytical results reported in the Phase I Remedial Investigation Report (Geraghty & Miller 1988), Phase II Remedial Investigation Report (Geraghty & Miller 1990), and the RD Work Plan (Geraghty & Miller 1993), were evaluated and compared to the modified inorganic soil clean-up criteria. This evaluation indicated that the only constituents present in the soil at the Site in excess of the modified soil clean-up criteria were lead, manganese, and zinc. The location of the soil impacts were confined to small areas surrounding previously completed soil borings. These soil borings included B-2, B-4, B-6, B-7, B-13, B-17, B-18 and B-19. These borings are grouped into four main areas at the Site, Areas 1 - 4, as presented on Figure 1-3. The Work Plan identified these areas as follows: Area 1 consists of borings B-17, B-18 and B-19; Area 2 consists of boring B-13; Area 3 consists of borings B-6 and B-7; and Area 4 consists of borings B-2 and B-4. Table 1-2 presents a summary of the inorganic constituents above soil clean-up criteria in each boring location.

A review of the data summarized in Table 1-2 indicates that five of the boring locations within the identified areas of concern exceeded the inorganic soil clean-up criteria for lead, three of the boring locations exceeded the clean-up criteria for manganese, and one boring location exceeded the clean-up criteria for zinc. The soil impacts were determined to be contained within a 10-foot by 10-foot area around each boring location based on the results of the soil boring activities. The depth of soil impacts at each boring location ranged from 4 to 14 feet bgs. The total extent of inorganic impacted soil at the Site was estimated to be approximately 300 cubic yards of in-place soil.

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TABLE 1-2									
Summary of Inorganic Impacted Soil  Zanesville Well Field Site									
-		Concentration (mg/kg)		Estimated Extent of Impacts		Impacts			
RI ID	RI ID	Pb	Mn	Zn	Area (Ft. x Ft.)	Depth (Ft.)	Volume (CY)		
Area 1	B-17	BL	BL	31250	10 x 10	10	37		
	B-18	517	BL	BL	10 x 10	4	15		
	B-19	401	BL	BL	10 x 10	10	37		
Area 2	B-13	1450	BL	BL	10 x 10	10	37		
Area 3	B-6	799	BL	BL	10 x 10	14	52		
	B-7	BL	3810	BL	10 x 10	14	52		
Area 4	B-2	1380	1270	BL	10 x 10	10	37		
	B-4	BL	2520	BL	10 x 10	10	37		
TOTAL ESTIMATED VOLUME OF IN-PLACE SOIL							304		

**Notes:** BL = Below Limit - Metal constituent was not detected in this boring at levels in excess of the soil clean-up criteria.

RI ID = Area and boring location identification used during the remedial investigation.

CY = Cubic yard.

### 1.3 DOCUMENT OVERVIEW

Section 2.0 of this document presents a summary of soil characterization activities conducted to classify impacted soil for off-site disposal. Section 3.0 presents the soil excavation, sampling, disposal and backfilling methodologies implemented during soil removal activities. Section 4.0 presents a summary of the soil removal activities, including soil excavation, confirmation sampling and analytical results, and backfilling.

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#### 2.0 SOIL CHARACTERIZATION FOR DISPOSAL

Impacted soil at the Site was characterized to classify the soil for proper off-site disposal and to obtain landfill approval and acceptance. Prior to excavation, soil samples were collected from impacted areas and chemically analyzed to characterize soil chemistry in accordance with the regulatory requirements.

#### 2.1 SOIL SAMPLE LOCATIONS AND ANALYTICAL RESULTS

A total of five soil samples were collected prior to the initiation of the excavation activities and chemically analyzed in order to classify the impacted soil and to obtain landfill disposal approval. One grab sample was collected from each of the four impacted areas and one composite sample was collected using soil from the four impacted areas. Figure 2-1 presents the locations from which the soil samples were collected for disposal characterization.

The soil samples were collected at an approximate depth of 6 to 8 feet bgs using a stainless steel core sampler. Each sample was then placed in a 16-ounce glass container, labeled, recorded and submitted for chemical analysis. The stainless steel core sampler was decontaminated using a deionized water/alconox wash followed by a deionized water rinse between collection of each sample. The soil sample analyses were performed by Environmental Laboratory Consultants (EL Corp) located in Zanesville, Ohio.

#### 2.2 ANALYTICAL RESULTS

The soil samples were analyzed for VOCs, using USEPA SW-846, Method 8240; semi-volatiles, using USEPA SW-846, Methods 3510 and 8250; and metals, using USEPA methods outlined in SW-846. The analytical results indicated that all analytes were non-detectable or below regulatory levels for disposal in all soil samples collected for disposal characterization. Based on the analytical results, the soils were classified as non-hazardous in accordance with transportation and disposal regulations and requirements. The laboratory data sheets for the soil characterization samples are presented in Appendix A.

The analytical results were forwarded to Suburban Landfill located in Brownsville, Ohio for disposal approval. Approval for soil disposal was obtained on October 25, 1995. A copy of the landfill disposal approval is presented in Appendix B.

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# 3.0 SOIL REMOVAL METHODOLOGY

This section presents the methodology implemented for inorganic impacted soil removal, confirmation soil sample collection, and chemical analyses. These activities were performed in accordance with the protocol set forth in the Work Plan.

#### 3.1 SCOPE OF WORK

The activities conducted during the soil removal included:

- Establish and set up exclusion and support zones;
- 2. Excavate soil from impacted areas and dispose of this soil off-site at the approved non-hazardous waste landfill;
- 3. Collect confirmation soil samples to ensure that soils at the limits of the excavations are below the regulatory clean-up criteria;
- 4. Excavate additional impacted soil as determined from confirmatory sampling, if necessary, to attain confirmatory soil samples at the limits of the excavation which are equal to or below the regulatory clean-up criteria; and
- 5. Backfill and compact excavations with clean fill subsequent to confirming compliance with the clean-up criteria.

# 3.2 SITE PREPARATION

Site preparation was conducted in accordance with the Work Plan and a Site management program was implemented to provide a safe working environment for Site workers and facility personnel. The Site is an operating facility which maintains a program to limit access to the Site. The Site is completely fenced and UTA maintains a security staff to control unauthorized access by the public. The Site management program outlined the Site work zones, including the exclusion zones, contaminant reduction areas, and remaining support areas.

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Separate exclusion zones were established for each excavation area to limit access to the construction activities and open excavations. The exclusion zones consisted of small individual areas to provide for continued Site access to areas between the excavations. Only authorized and properly trained personnel were allowed access to the exclusion zones. Prior to exiting the exclusion zone and transporting soil for disposal, haul trucks were covered to protect against potential spillage or dust emission.

The contamination reduction zones included temporary decontamination pads used to remove and contain potentially-impacted soil from excavation equipment. The temporary pads were located beneath each haul truck during excavation and loading activities. The pads consisted of three layers of 12 millimeter thick plastic sheets, extending a minimum of 5-feet beyond the edges of the haul truck in each direction. Loose dirt falling on the exterior of the haul vehicle was brushed off the vehicles and onto the plastic sheeting prior to the vehicle leaving the loading area. Loose dirt was swept up after each truck left the decontamination pad.

The support zones encompassed the remainder of the fenced-in area at the Site. Haul trucks used during excavation activities were routed through the southern entrance of the facility to and from the support zone. The northern entrance of the Site was not utilized as an entrance or an exit. A plastic liner was installed in the bed of each haul truck used to transport soil with high moisture content through the support zones. This ensured that any water contained in the soil would not leak from the haul truck during transportation.

#### 3.3 SOIL EXCAVATION

Excavation of impacted soil was conducted at the four areas defined in Section 1.2.4. The four impacted areas included a total of eight excavations throughout the Site. Figure 1-3 presents the location of each of the excavations. As specified in the Work Plan, the four main impacted areas were identified as Areas 1 through 4. Area 1 consisted of three excavations around soil borings B-17, B-18 and B-19. Area 2 consisted of one excavation around soil boring B-13. Area 3 consisted of two excavations around soil borings B-6 and B-7, and Area 4 consisted of two excavations around soil borings B-2 and B-4. Soil excavation activities were conducted by Kemron Environmental Services (Kemron), located in Cincinnati, Ohio.

The impacted soil was removed from each excavation using a hydraulic backhoe. The haul trucks were parked on the decontamination pad and the excavated soil was loaded directly by the backhoe into the trucks. This process minimized redundant handling of impacted soil while minimizing potential track-out of soil from the exclusion zones. The remediation contractor collected any clean soil which came into contact with potentially impacted soil. After each truck was loaded, a non-hazardous waste manifest was prepared to document the transportation of soil to the landfill. The haul trucks were then dispatched to the landfill where the loaded trucks were weighed prior to disposal.

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#### 3.4 CONFIRMATION SAMPLING AND LABORATORY ANALYSIS

Confirmation soil sampling was conducted on the excavation walls and floor to ensure impacted soil had been removed to below the regulatory clean-up criteria. The confirmation sampling was performed at each impacted area. In general, the following confirmatory soil sampling activities were implemented during excavation activities:

- 1. Collection of soil samples representative of the excavation sidewalls. These samples were obtained by collecting discrete soil samples at the midpoint of each of the four sidewalls at a depth approximately 5 feet bgs. A portion of each of the discrete samples from each sidewall were composited into one sample and a portion of each of the discrete samples was archived for analysis at a later date, as necessary. Figure 3-1 presents a plan view of a typical sampling location;
- 2. Collection of a discrete soil sample from the floor of the excavation, as presented in Figure 3-1; and,
- 3. Collection of additional sidewall and floor soil samples as necessary to ensure impacted soil was completely excavated. The procedures described above in Steps 1 and 2 were repeated until the inorganic impacted soil was removed from the excavation to levels equal to or below the regulatory clean-up criteria.

Soil samples collected from the impacted areas were analyzed for the inorganic constituents that were previously identified to be present above the modified soil clean-up criteria in the respective areas. Laboratory analyses were performed using USEPA Method 6010.

Each sample collected from the excavations was split into two samples. One sample was shipped to EL Corp for preliminary screening. Preliminary screening included analysis of the samples using Method 6010. The duplicate sample was shipped to Quanterra Environmental Services (Quanterra), located in North Canton, Ohio for analysis of samples from locations which exhibited constituent levels below the clean-up criteria during the preliminary screening. Quanterra analyzed confirmation samples in accordance with Data Quality Objective Level IV (DQO Level IV) analysis.

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If preliminary screening revealed constituent concentrations below the clean-up criteria, then SECOR authorized Quanterra to analyze the second sample, as discussed above. If the preliminary screening revealed constituent concentrations above the clean-up criteria, then the second sample was not analyzed and additional soil was removed from the excavation area. This procedure was modified during the additional excavation activities required at boring locations B-2 and B-18. At these locations, confirmatory soil samples were analyzed by Quanterra without preliminary screening by El Corp.

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### 4.0 SOIL REMOVAL ACTIVITIES

This section summarizes the soil removal activities performed to remove inorganic impacted soil from the Site in excess of the soil clean-up criteria for soil. Soil removal activities were conducted from October 31 to November 13, 1995, and from December 4 to December 7, 1995, in accordance with procedures presented in the Work Plan. The soil removal activities involved excavation and disposal of approximately 1,650 tons of inorganic impacted soil from the Site. A total of approximately 2,100 tons of gravel was used as backfill in the excavations. Copies of the landfill weight tickets for excavated soil from the Site are presented in Appendix C and copies of the gravel weight tickets are presented in Appendix D.

# 4.1 EXCAVATIONS AT BORINGS B-17, B-18 AND B-19 (AREA 1)

Area I soil excavation, disposal and confirmation soil sampling was performed on November 1, 1995. Area I soil impacts were characterized based on soil borings B-17, B-18 and B-19, which were completed during previous Site investigations. During drilling activities at boring B-17, zinc was detected above the regulatory clean-up criteria. Lead was detected above the regulatory clean-up criteria at boring locations B-18 and B-19. Impacted soil encountered in Area I consisted of a black gravelly topsoil from ground surface to a depth of I foot bgs. Underlying this material was a dark reddish brown material that extended to a depth of 2 feet bgs and a mixture of light tan sand and clay with a significant amount of tile and brick that was present from 2 to 8 feet bgs. A brown silty sand was encountered at a depth of approximately 8 feet bgs and continued to the bottom of the excavation at approximately 10 feet bgs.

# 4.1.1 Volume of Soil Removed

Borings B-17, B-18 and B-19 were located in very close proximity, therefore a portion of the excavations at borings B-17, B-18 and B-19 overlapped. The excavation at boring B-17 measured approximately 10 feet by 12 feet by 10 feet deep and approximately 44 in-place cubic yards of inorganic impacted soil were removed from this location. The excavation at boring B-18 measured approximately 10 feet by 10 feet by 4 feet deep and approximately 15 in-place cubic yards of inorganic impacted soil were removed from this location. The excavation at boring B-19 measured approximately 15 feet by 10 feet by 10 feet deep and approximately 56 cubic yards of inorganic impacted soil were removed from this location. Approximately 96 tons (44 + 15 + 56 = 115 cubic yards) of excavated soil at borings B-17, B-18 and B-19 were disposed of at the Suburban Landfill in Brownsville, Ohio.

Confirmation soil samples were collected from the excavations at borings B-17, B-18 and B-19. The laboratory analysis from the samples collected from the excavation at boring B-17 indicated that concentrations of zinc were below the clean-up criteria. Based on preliminary analytical results for lead, which exceeded the clean-up criteria,

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additional soil was excavated from the west sidewall, south sidewall and floor of the excavation at B-18. Additional soil was also removed from the east sidewall, south sidewall and north sidewall of the excavation at B-19. Approximately 2 feet of additional soil were excavated from the south and west sidewalls, and 3 feet of additional soil were excavated from the floor of the excavation at boring B-18. Approximately 2 feet of additional soil were excavated from the south and east sidewalls, and 3 feet of additional soil were excavated from the north sidewall of the excavation at boring B-19. The excavation at boring B-18 overlapped with the open excavation at boring B-17; therefore, no discrete soil sample was collected from the west sidewall for the sidewall composite sample. During the excavation of the north sidewall at boring B-19, an old concrete footer was encountered; therefore, no discrete soil sample was collected for the sidewall composite sample. Approximately 14 tons of additional soil were removed during this excavation and disposed of at the Suburban Landfill. A second round of confirmation soil samples was collected and submitted to Quanterra for analysis.

Laboratory analysis of the second round of confirmation samples indicated that lead was still present above the soil clean-up criteria. On November 8, 1995, additional soil was excavated from the floor and south sidewall near boring B-18 and from the south sidewall near boring B-19. The floor of the excavation near boring B-18 was extended to a depth of approximately 8 to 10 feet bgs where a silty sand material was encountered. Approximately 188 tons of additional soil were excavated from these areas and a third round of confirmation soil sampling was performed. Soil samples were collected and submitted to Quanterra for 24 hour turn-around analysis. The results of the laboratory analysis indicated that lead was below the soil clean-up criteria in all confirmation soil samples except the soil sample collected from the south sidewall of the excavation at boring B-18.

On November 13, 1995 an additional 113 tons of soil was excavated from the south sidewall of the excavation at boring B-18 and a confirmation sidewall soil sample was collected and submitted to Quanterra for analysis. The results of the laboratory analysis indicated that lead was present above the soil clean-up criteria and additional excavation would be required.

Based on the continued exceedence of the lead standard in the vicinity of the south sidewall of the excavation at boring B-18, investigations were conducted to define the extent of soil impacts. Soil lead concentrations were compared with physical characteristics of the soil that had been sampled to determine if a correlation between the type of soil and elevated lead concentrations could be determined. Based on the comparison, it was determined that a yellowish tile material was most likely the reason the soil samples from this area continued to be impacted with lead above the clean-up criteria. It was decided to excavate test pits to determine the horizontal and vertical extent of the tile material and to estimate the overall quantity of soil that would require excavation and disposal.

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On December 4, 1995 several test pits were excavated in Area 1 to further define the horizontal and vertical extent of the yellow tile material. A total of seven test pits were excavated to further define the extent of lead-impacted soil. The test pit locations are presented on Figure 4-1. It appeared the yellow tile material was used in the past as fill in the immediate area of boring B-18. Based on the results of these test pits it was determined that approximately 500 cubic yards of additional tile material and soil required excavation and disposal.

The removal of additional soil was conducted from December 4, 1995 through December 7, 1995. The final dimensions of the Area 1 excavation were approximately 50 feet by 100 feet by 8 feet deep as presented on Figure 4-1. Approximately 846 tons of additional soil were removed and disposed of at the Suburban Landfill. Confirmation soil samples were collected and submitted to Quanterra on December 7, 1995. The analytical results from the confirmation sampling indicated that lead concentrations were equal to or below the clean-up criteria and confirm the removal of impacted inorganic soil surrounding borings B-17, B-18 and B-19.

### 4.1.2 Soil Sample Analytical Results

Following the initial soil excavation in Area 1, confirmation soil samples were collected from excavations at borings B-17, B-18 and B-19. One floor sample and one sidewall composite sample were collected from each excavation and submitted for preliminary analysis by EL Corp and a split soil sample was submitted to Quanterra for final analysis.

The preliminary laboratory results for the B-17 floor and B-17 sidewall composite samples indicated concentrations of zinc were below the clean-up criteria of 23,000 mg/kg. The preliminary zinc results for the B-17 floor sample and the B-17 sidewall composite sample were 39.0 mg/kg and 49.8 mg/kg, respectively. Since the preliminary laboratory results were below the clean-up criteria, the two split samples were approved for analysis by Quanterra. Quanterra laboratory results for the B-17 floor sample and the B-17 sidewall composite sample were 45.1 mg/kg and 56.3 mg/kg zinc, respectively, both below the soil clean-up criteria for zinc in soil.

The preliminary laboratory results of lead for the B-18 floor sample and the B-18 sidewall composite sample were 503.4 mg/kg and 471.5 mg/kg of lead, respectively. Based on the analytical results, lead was present above the regulatory clean-up criteria, which indicated additional soil removal would be required. Therefore, Quanterra did not analyze the B-18 floor or B-18 sidewall composite samples.

The preliminary laboratory results for the B-19 floor sample indicated that lead was present at 214.6 mg/kg, which was below the regulatory clean-up criteria. The preliminary laboratory results for the B-19 sidewall composite sample indicated lead was present at 1,311 mg/kg, which was above the regulatory clean-up criteria.

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Therefore, additional soil removal would be necessary. Since the preliminary laboratory results were below the clean-up criteria for the B-19 floor sample, Quanterra was authorized to analyze the split sample. Quanterra's laboratory result for the B-19 floor sample was 18.0 mg/kg, which was below the soil clean-up criteria for lead. Quanterra did not analyze the B-19 sidewall composite sample because additional soil removal was required.

Discrete soil samples from the excavation sidewalls, including the B-18 Sidewall North, South and West, and B-19 Sidewall North, South, East and West samples were submitted to EL Corp for lead analysis to determine which specific sidewalls were above the soil clean-up criteria. The results indicated that concentrations of lead exceeded the soil clean-up criteria in the B-18 sidewall south sample (1,146 mg/kg), the B-18 sidewall west sample (683.5 mg/kg), the B-19 sidewall south sample (6,380 mg/kg) and the B-19 sidewall north sample (1,981.4 mg/kg). The results also indicated that lead was present below the regulatory clean-up criteria in the B-18 sidewall north sample (376.7 mg/kg), the B-19 sidewall east sample (172.1 mg/kg) and the B-19 sidewall west sample (285.9 mg/kg).

On November 3, 1995, additional soil was removed from excavations at borings B-18 and B-19 where confirmation soil samples indicated concentrations of lead above the regulatory clean-up criteria. Following the additional soil removal, the B-18 floor-B, B-18 sidewall composite-B and B-19 sidewall composite-B confirmation samples were collected and submitted directly to Quanterra for laboratory analysis. The results of the analysis indicated concentrations of lead above the regulatory clean-up criteria in the B-18 floor-B sample (2,190 mg/kg), B-18 sidewall composite-B sample (578 mg/kg) and B-19 sidewall composite-B sample (543 mg/kg). Based on these results, additional soil removal was performed.

On November 8, 1995, additional soil was removed from excavations at borings B-18 and B-19 because confirmation soil samples exhibited concentrations of lead above regulatory clean-up criteria. Following the additional soil removal, the B-18 floor-C sample, the B-18 sidewall composite-C sample and the B-19 sidewall composite-C sample were collected and submitted directly to Quanterra for laboratory analysis. The results of the analysis indicated concentrations of lead below the regulatory clean-up criteria in the B-18 floor-C sample (non detect) and B-19 sidewall composite-C sample (63.1 mg/kg). The results for the B-18 sidewall composite-C sample were 1,030 mg/kg, which was above the regulatory clean-up criteria for lead. Based on these results, it was necessary to remove additional soil from the south sidewall of the excavation at boring B-18.

On November 13, 1995, additional soil was removed from the south sidewall of the excavation at boring B-18. The B-18 sidewall composite-D confirmation soil sample was collected and submitted to Quanterra for laboratory analysis. The results indicated the concentration of lead was 748 mg/kg, which was above the regulatory clean-up criteria for lead. Based on these results it was necessary to remove additional soil from the south sidewall of the excavation at this location.

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As previously discussed in Section 4.1.1, an evaluation of the analytical results and the physical characteristics of the excavated soil was performed to determine a correlation and to define the horizontal and vertical extent of soil impacted with lead. Based on the results of the horizontal and vertical investigation conducted, the excavation sidewalls were extended in all directions to the limits of an old underground building foundation. Sidewall confirmation samples were collected adjacent to the foundation wall by digging down approximately 5-feet with the backhoe and collecting the soil samples from the backhoe bucket.

Two soil samples, B-18 floor-E and B-18 sidewall composite-E, were collected and submitted to Quanterra for lead analysis. The results of the laboratory analysis indicated that both samples exhibited lead concentrations that met the soil clean-up criteria. Soil samples B-18 floor-E and B-18 sidewall composite-E had lead concentrations of 16.3 mg/kg and 400 mg/kg, respectively. The final confirmatory sample locations and associated analytical results for the Area 1 excavation are presented on Figure 4-1. Based on these laboratory results, no further soil removal was required. A copy of the EL Corp laboratory results are presented in Appendix E and a copy of the validated Quanterra laboratory results are presented in Appendix F.

#### 4.1.3 Backfilling of Excavation

After confirmation soil samples B-18 floor-E and B-18 sidewall composite-E were collected, the excavation was backfilled with a clean gravel fill material. Backfilling of the excavation was initiated prior to receiving the final analytical results to eliminate potential hazards as a result of the large excavation. The fill material was placed within the excavation using the backhoe bucket and compacted using the backhoe bucket and tracks.

# 4.2 EXCAVATION AT BORING B-13 (AREA 2)

Area 2 soil excavation, disposal and confirmation soil sampling was performed from October 31 through November 1, 1995. Area 2 soil impacts were characterized based on boring B-13, which was completed during previous Site investigations. Samples from boring B-13 detected lead concentrations in the soil above the regulatory clean-up criteria. Soil encountered within Area 2 consisted of approximately 6 inches of black gravelly topsoil underlain by 6 inches of a gray clayey material. Underlying this material was 6 inches of crushed brick fill material on top of a light tan sand. At approximately 1.5 feet bgs, a brown silty clayey sand was encountered and extended to the bottom of the excavation at approximately 10 feet bgs.

#### 4.2.1 Volume of Soil Removed

A survey of the excavation at boring B-13 measured approximately 14 feet by 12.5 feet by 10 feet deep as presented on Figure 4-2. Approximately 65 in-place cubic yards of impacted soil were removed from the area surrounding boring B-13. Approximately 81 tons of soil were disposed of at the Suburban Landfill in Brownsville, Ohio.

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#### 4.2.2 Soil Sample Analytical Results

Two split soil samples, B-13 floor and B-13 sidewall composite, were collected from the excavation at boring B-13 for chemical analysis. Representative B-13 floor and B-13 sidewall composite samples were submitted to EL Corp for preliminary analysis of lead using USEPA SW-846 Method 6010. The preliminary laboratory results indicated that lead was present below the clean-up criteria of 400 mg/kg. The preliminary lead results for the B-13 floor sample and the B-13 sidewall composite sample were 9.29 mg/kg and 274.8 mg/kg lead, respectively. Since the preliminary laboratory results were below the clean-up criteria, representative duplicate samples were approved for analysis by Quanterra. The Quanterra laboratory result for the B-13 floor sample and the B-13 sidewall composite sample were 12.8 mg/kg and 30.1 mg/kg lead, respectively. These results are both below the soil clean-up criteria for lead and confirm the removal of inorganic impacts surrounding boring B-13 in accordance with the Work Plan. The final confirmatory sample locations and associated analytical results for the Area 2 excavation are presented on Figure 4-2. A copy of the EL Corp laboratory results are presented in Appendix E and a copy of the validated Quanterra laboratory results are presented in Appendix F.

# 4.2.3 Backfilling of Excavation

Backfilling of the excavation at boring B-13 was initiated after review of the analytical results from the confirmation samples. The excavation was backfilled using a clean gravel fill material. The fill material was placed within the excavation using the backhoe bucket and compacted using the backhoe bucket and tracks.

#### 4.3 EXCAVATIONS AT BORINGS B-6 AND B-7 (AREA 3)

Area 3 soil excavation, disposal and confirmation soil sampling was performed on October 31, 1995. Area 3 soil impacts were characterized based on soil borings B-6 and B-7, which were completed during previous Site investigations. During drilling activities associated with boring B-6, lead was detected above the regulatory clean-up criteria. During drilling activities associated with boring B-7, manganese was detected above the regulatory clean-up criteria. Impacted soil encountered in Area 3 consisted of tile fill material with intermixed sand and clay.

#### 4.3.1 Volume of Soil Removed

The excavations at borings B-6 and B-7 were combined into one large excavation because of their close proximity. A survey of the combined excavation measured approximately 15 feet by 20 feet by 14 feet deep, which is equivalent to approximately 156 in-place cubic yards of soil. The approximate limits of the excavation are presented in Figure 4-3. Approximately 95 tons of soil from the excavation at borings B-6 and B-7 were disposed of at the Suburban Landfill in Brownsville, Ohio. This excavation was adjacent to the existing air stripping tower and interceptor well piping. Operation of interceptor well I-4 was discontinued during the

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excavation activities in this area due to the close proximity of the groundwater conveyance line. Removal of the groundwater conveyance line was required to provide for excavation beneath the line. Approval was obtained from the USEPA prior to shutting down interceptor well I-4.

Confirmation soil samples for the excavation at borings B-6 and B-7 were collected from the floor and sidewalls of the excavation. During the excavation of the southern sidewall, a brick wall beneath the air stripper was exposed. The composite sidewall soil sample for the excavation at boring B-6 did not include a discrete soil sample from the southern wall due to the presence of the brick wall. Also, there was no sidewall present on the west side of the excavation at boring B-6 or the east wall of the excavation at boring B-7 because the excavations overlapped one another. Therefore, the composite sidewall soil samples for the excavation at borings B-6 and B-7 did not include samples from these sidewalls.

#### 4.3.2 Soil Sample Analytical Results

Two soil samples, the B-6 floor sample and the B-6 sidewall composite sample, were collected from the excavation at boring B-6 and were split for chemical analysis. The B-6 floor sample and the B-6 sidewall composite sample were submitted to EL Corp for preliminary analysis of lead using USEPA SW-846 Method 6010. The preliminary laboratory results indicated that the concentration of lead was below the clean-up criteria of 400 mg/kg. The lead results for the B-6 floor sample and B-6 sidewall composite sample were <17.0 mg/kg and 204.1 mg/kg, respectively. Since the preliminary laboratory results were below the clean-up criteria, the duplicate soil samples were approved for analysis by Quanterra. The Quanterra laboratory result for the B-6 floor sample and the B-6 sidewall composite sample were non-detect and 338 mg/kg, respectively. These results are both below the soil clean-up criteria for lead and confirm the removal of inorganic impacts surrounding boring B-6 in accordance with the Work Plan. A copy of the EL Corp laboratory results are presented in Appendix E and a copy of the validated Quanterra laboratory results are presented in Appendix F.

Two split soil samples, the B-7 floor sample and the B-7 sidewall composite sample, were collected from the excavation at boring B-7 and were split for chemical analysis. The B-7 floor and B-7 sidewall composite samples were submitted to EL Corp for preliminary analysis of manganese using USEPA SW-846 Method 6010. The manganese results for the B-7 floor sample and the B-7 sidewall composite sample were 633.4 mg/kg and 485.5 mg/kg, respectively. Since the preliminary laboratory results were below the clean-up criteria (1,200 mg/kg), the duplicate soil samples were approved for analysis by Quanterra. The Quanterra laboratory results for the B-7 floor sample and the B-7 sidewall composite sample were 681 mg/kg and 526 mg/kg manganese, respectively. These results are both below the soil clean-up criteria for manganese and confirm the removal of inorganic impacts surrounding boring B-7 in accordance with the Work Plan. The final confirmatory sample locations and associated analytical results for the Area 3 excavation are presented on Figure 4-3. A copy of the EL Corp laboratory results are presented in Appendix E and a copy of the validated Quanterra laboratory results are presented in Appendix F.

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# 4.3.3 Backfilling of Excavation

Backfilling of the excavation at borings B-6 and B-7 was initiated after review of the analytical results from the confirmation samples. The excavation was backfilled using a clean gravel fill material. The fill material was placed within the excavation using the backhoe bucket and compacted using the backhoe bucket and tracks. As the fill material was brought to grade, the transmission piping for I-4 was repaired and the operation was initiated. The backfilling was then completed to grade.

#### 4.4 EXCAVATIONS AT BORINGS B-2 AND B-4 (AREA 4)

Area 4 soil excavation, disposal and confirmation soil sampling was performed on October 31, and November 1 and 3, 1995. Area 4 soil impacts were characterized based on soil borings B-2 and B-4 which were completed during previous Site investigations. During drilling activities for borings B-2 and B-4, lead and manganese were detected above the regulatory clean-up criteria and, therefore, were the constituents of concern for the confirmation soil sampling. Impacted soil encountered in Area 4 consisted of a sandy fill material with some gravel and tile debris.

#### 4.4.1 Volume of Soil Removed

Excavation of soil from the B-4 location was performed on October 31, 1995. The dimensions of the open excavation were approximately 10 feet by 10 feet by 10 feet deep, and resulted in the initial removal of approximately 37 cubic yards of inorganic impacted soil. During the excavation at boring B-4, a water main was damaged by the backhoe, creating a small leak in the pipe. It was necessary to excavate additional soil in the vicinity of the pipe to repair the damaged water main. The excavation of additional soil at boring B-4 overlapped a portion of the area requiring soil removal at boring B-2. After completion of the excavations at borings B-4 and B-2, confirmation soil samples were collected from the sidewalls and the floor of the excavation.

Preliminary analytical results from soil samples collected from the floor and sidewalls of the B-2 excavation detected constituents above regulatory clean-up criteria which indicated that additional soil needed to be removed. Additional soil was removed and confirmation soil samples were collected. As a result of the additional excavation required, one large excavation at borings B-2 and B-4 was created.

A field survey of the combined B-2 and B-4 excavations measured approximately 20 feet by 30 feet by 8-10 feet deep as presented on Figure 4-4. Approximately 178 in-place cubic yards of inorganic impacted soil were removed from the area surrounding borings B-2 and B-4. A total of approximately 206 tons (63 tons from the B-2 excavation and 143 tons from the B-4 excavation) of impacted soil from the B-2 and B-4 excavations were disposed of at the Suburban Landfill in Brownsville, Ohio.

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#### 4.4.2 Soil Sample Analytical Results

Two soil samples, the B-4 floor sample and the B-4 sidewall composite sample, were collected from the excavation at boring B-4 and, were transmitted to EL Corp for preliminary analysis for manganese using USEPA SW-846 Method 6010. The preliminary laboratory results indicated the concentrations of manganese were below the clean-up criteria of 1,200 mg/kg. The manganese results for the B-4 floor and B-4 sidewall composite samples were 312.9 mg/kg and 435.5 mg/kg, respectively. Since the preliminary laboratory results were below the clean-up criteria, representative duplicate samples were approved for analysis by Quanterra. The Quanterra laboratory results for the B-4 floor sample and the B-4 sidewall composite sample were 356 mg/kg and 383 mg/kg, respectively. The Quanterra analytical results also indicated manganese was below the soil clean-up criteria and confirm the removal of inorganic impacts surrounding B-4 in accordance with the Work Plan. A copy of the EL Corp laboratory results is presented in Appendix E and a copy of the validated Quanterra laboratory results is presented in Appendix F.

Two soil samples, the B-2 floor sample and the B-2 sidewall composite sample, were collected from the excavation at boring B-2 and submitted directly to Quanterra for analysis for manganese and lead. The laboratory results indicated the concentrations of manganese were above the clean-up criteria of 1,200 mg/kg in both soil samples. The manganese results for the B-2 floor sample and the B-2 sidewall composite sample were 1,410 mg/kg and 2,790 mg/kg, respectively. Lead concentrations were detected below the clean-up criteria in the B-2 floor sample and the B-2 sidewall composite sample at 143 mg/kg and 130 mg/kg, respectively. Additional excavation and confirmation soil sampling was required at boring B-2 due to the detection of manganese at concentrations above the regulatory clean-up criteria. After completing the additional excavation, floor and sidewall samples were collected and submitted to Quanterra for analysis of manganese. Quanterra laboratory results for the B-2 floor-B sample and the B-2 sidewall composite-B sample were 441 mg/kg and 408 mg/kg, respectively. Both sample results were below the regulatory clean-up criteria and confirm the removal of inorganic impacts surrounding boring B-2 in accordance with the Work Plan. The final confirmatory sample locations and associated analytical results for the Area 4 excavation are presented on Figure 4-4. A copy of the validated Quanterra laboratory results are presented in Appendix F.

# 4.4.3 Backfilling of Excavation

Backfilling of the excavation at borings B-2 and B-4 was initiated after receipt of the analytical results from the confirmation samples. The excavation was backfilled using a clean gravel fill material. The fill material was placed within the excavation using the backhoe bucket and compacted using the backhoe bucket and tracks.

Section: 5.0 Page: 1 of 1

# **5.0 SUMMARY**

The Inorganic Soil Removal began on October 31, 1995 and was completed on December 8, 1995. The work was performed in accordance with the USEPA approved "Inorganic Soil Removal Work Plan", dated July 25, 1995. The laboratory results of the soil confirmation sampling performed at each excavation indicated that soil were removed to concentrations less than or equal to the inorganic soil clean-up criteria for the respective constituents of concern. The excavation at Areas 1 and 4 were expanded beyond that outlined in the work plan to ensure compliance with the soil clean-up criteria. The excavated soil was disposed of at the Suburban Landfill in Brownsville, Ohio.

**FIGURES** 

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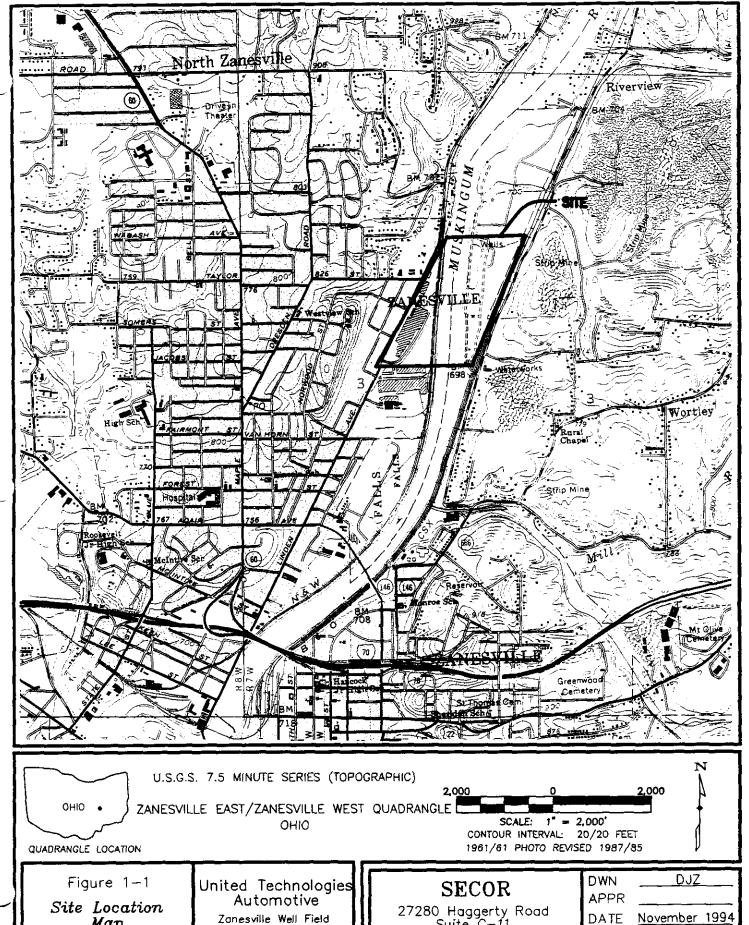
Zanesville Well Field (OH)

Section:

Remediation (K. // )

Notes:

Map

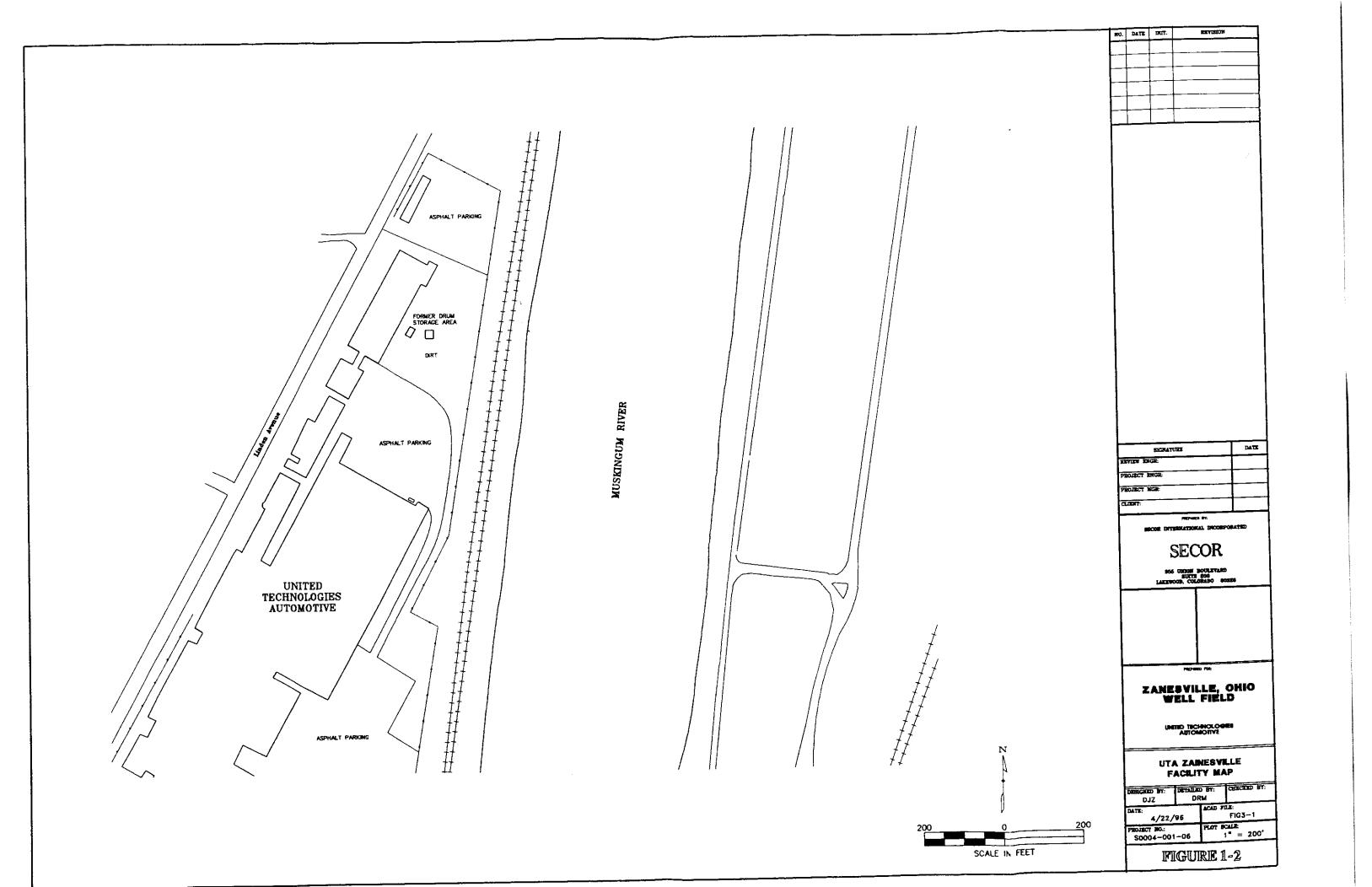


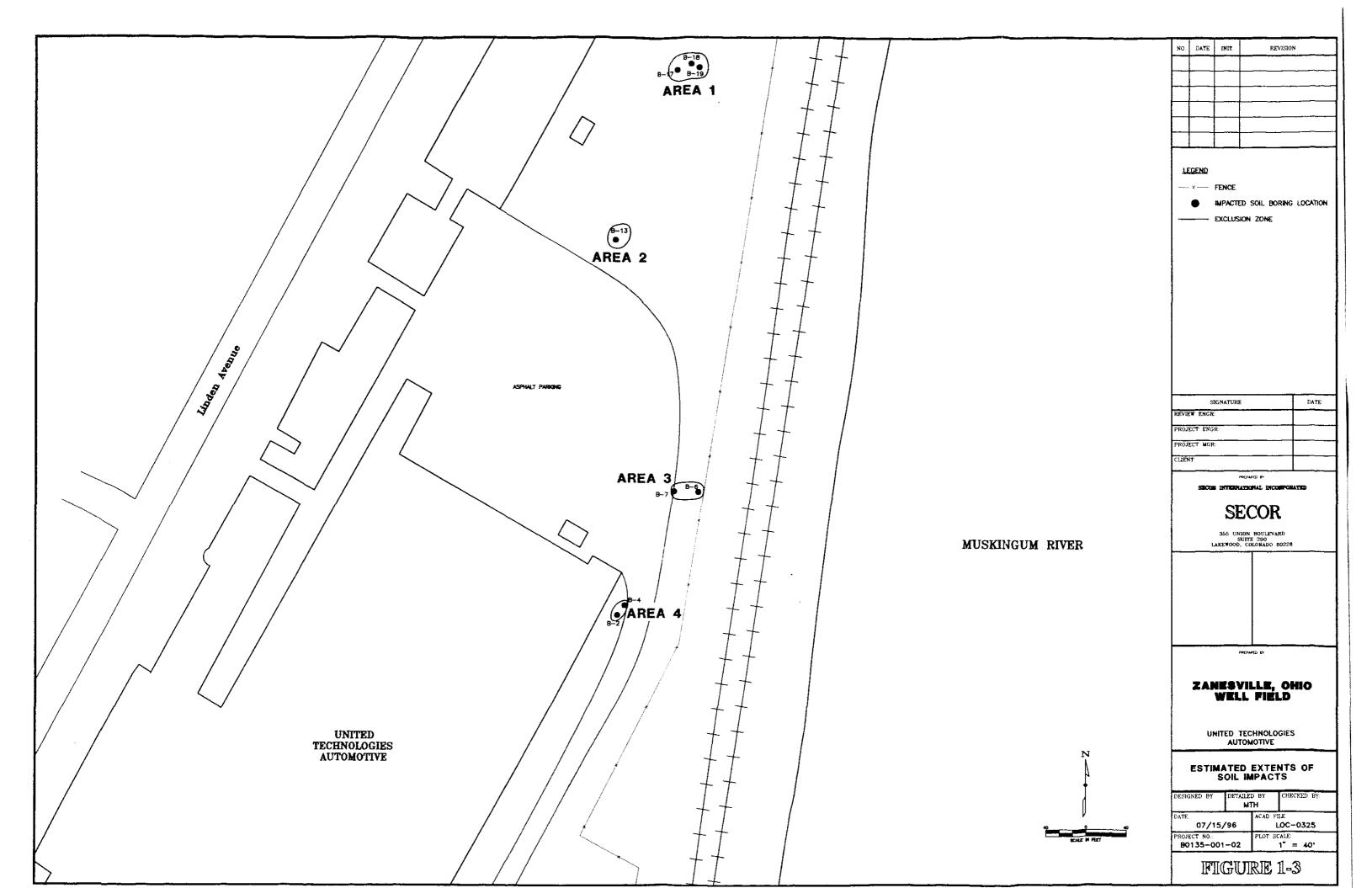
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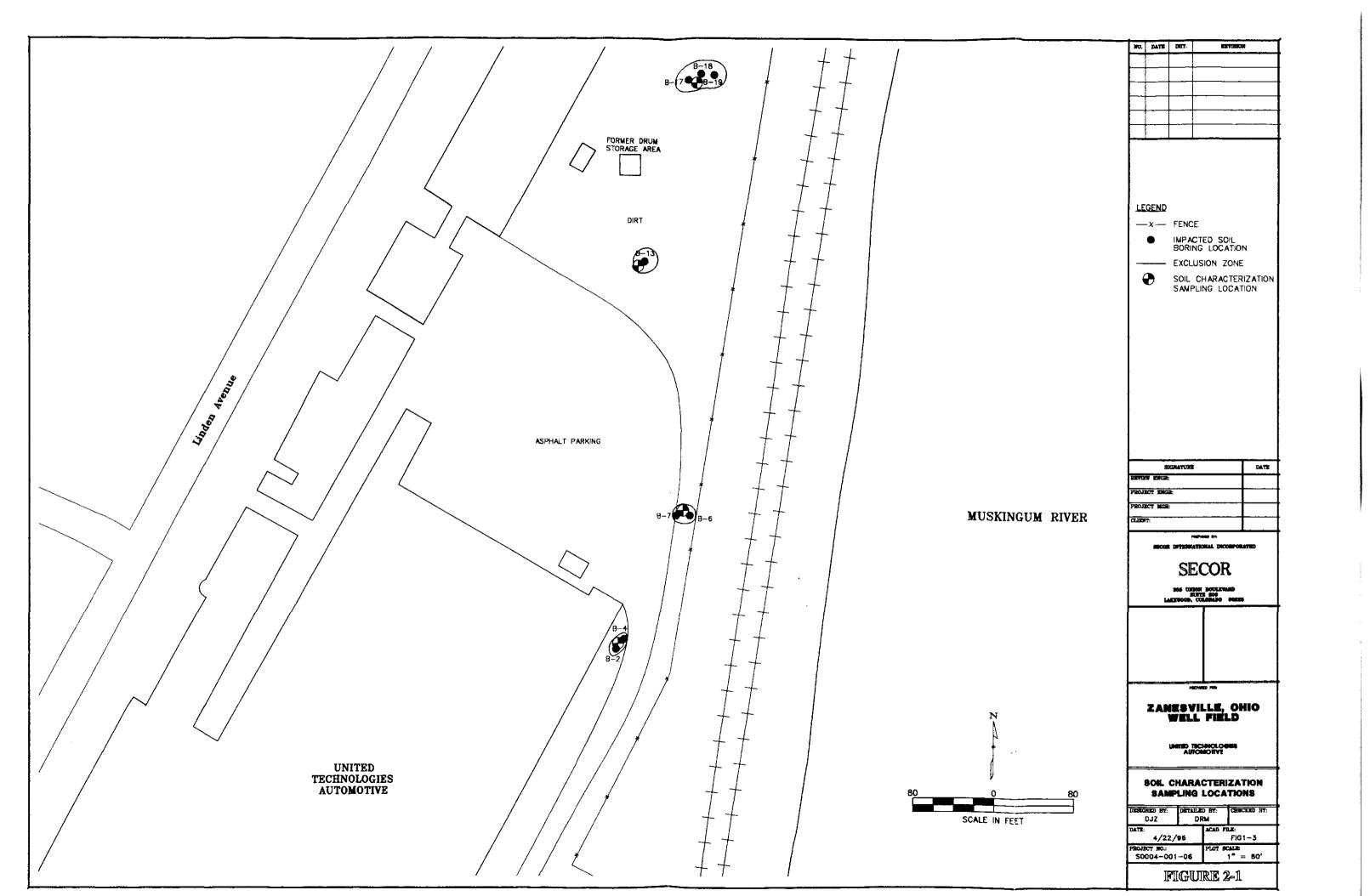
Zanesville Well Field Zanesville, Ohio

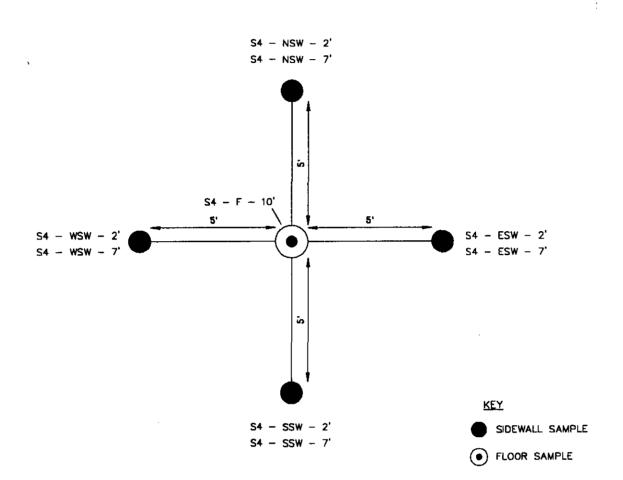
27280 Haggerty Road Suite C-11 Farmington Hills, MI 48331

JOB NO. S0004-001-01









SECTION 4 (B-13) SAMPLING PLAN

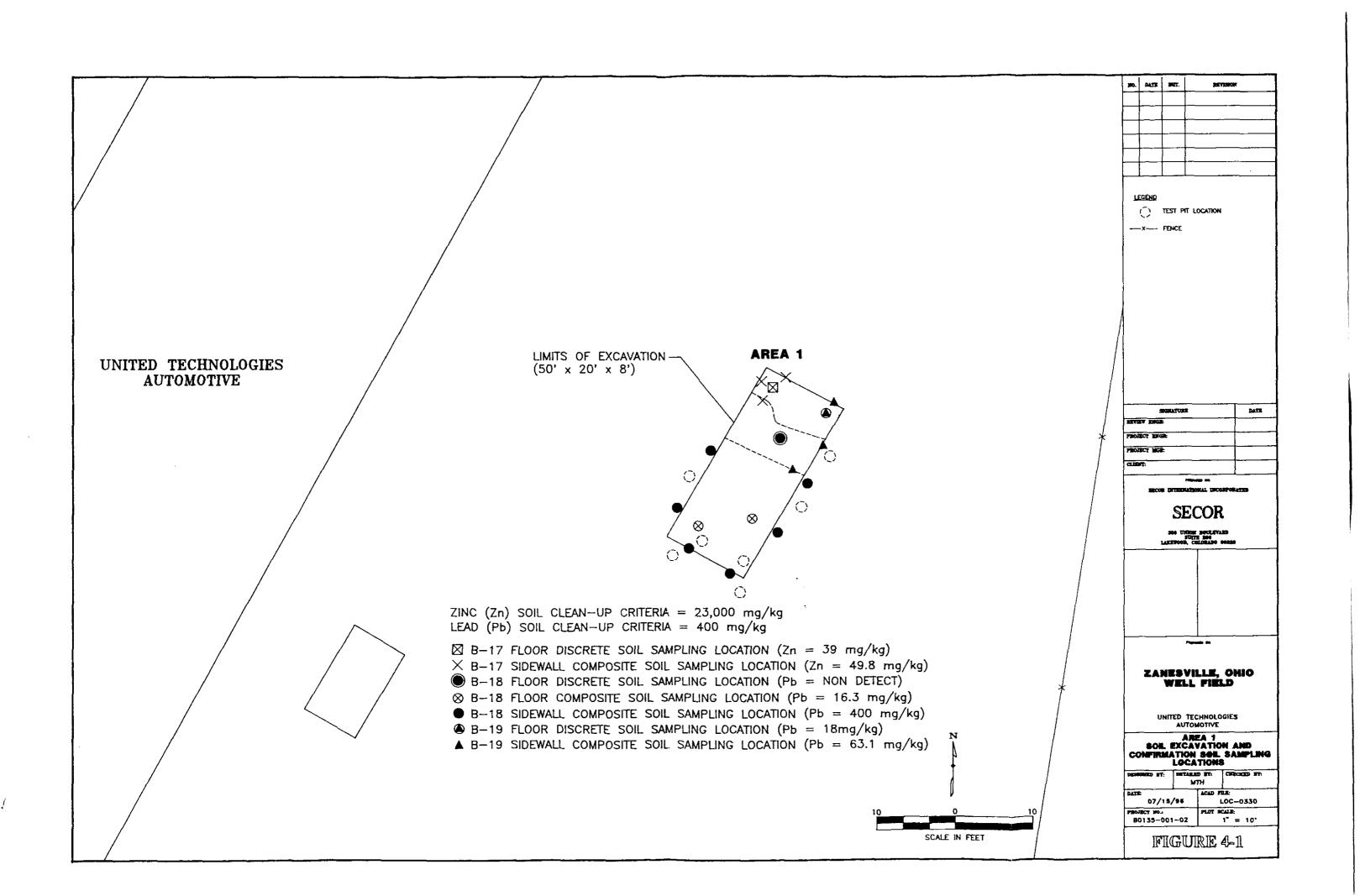
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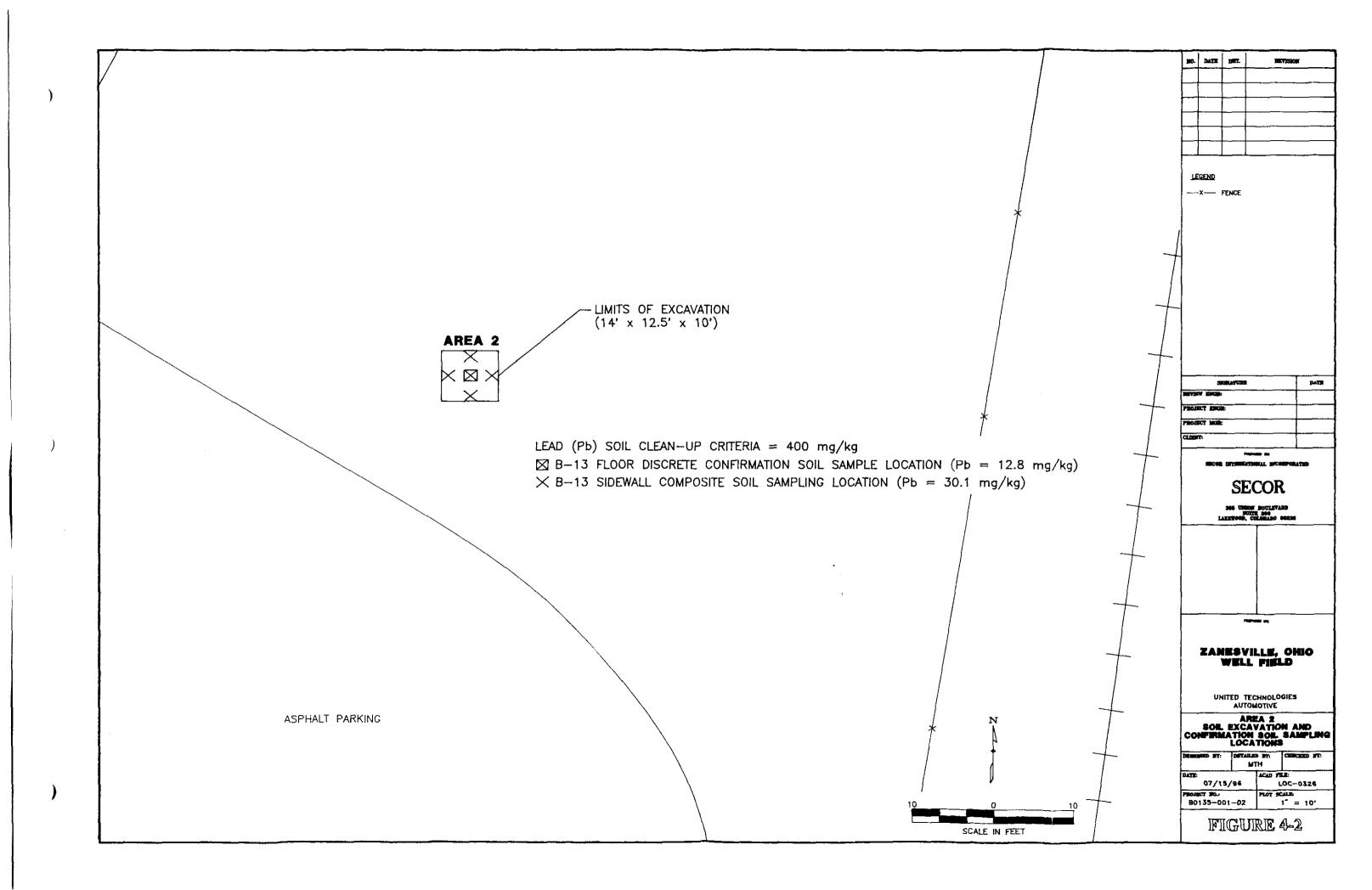
- 1. COLLECT DISCRETE SAMPLES AT EACH OF THE SW SAMPLING LOCATIONS (8 TOTAL).
- 2. COMPOSITE THE 8 DISCRETE SAMPLES INTO THE ONE SAMPLE FOR THE LABORATORY ANALYSIS. SAVE A PORTION OF EACH DISCRETE SAMPLE FOR ANALYSIS IN THE FUTURE, IF NECESSARY.
- 3. COLLECT ONE DISCRETE SAMPLE FROM THE EXCAVATION FLOOR.

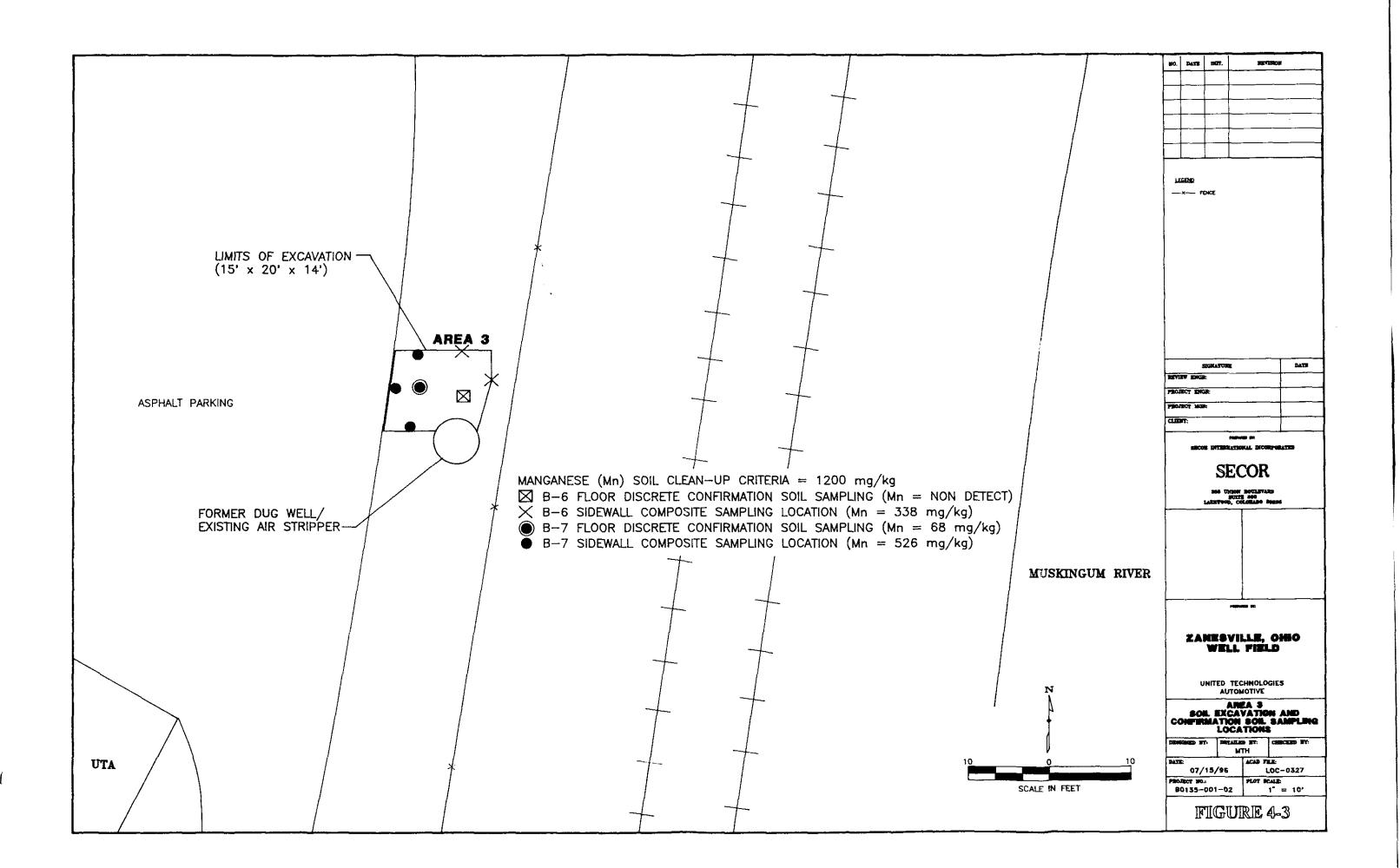
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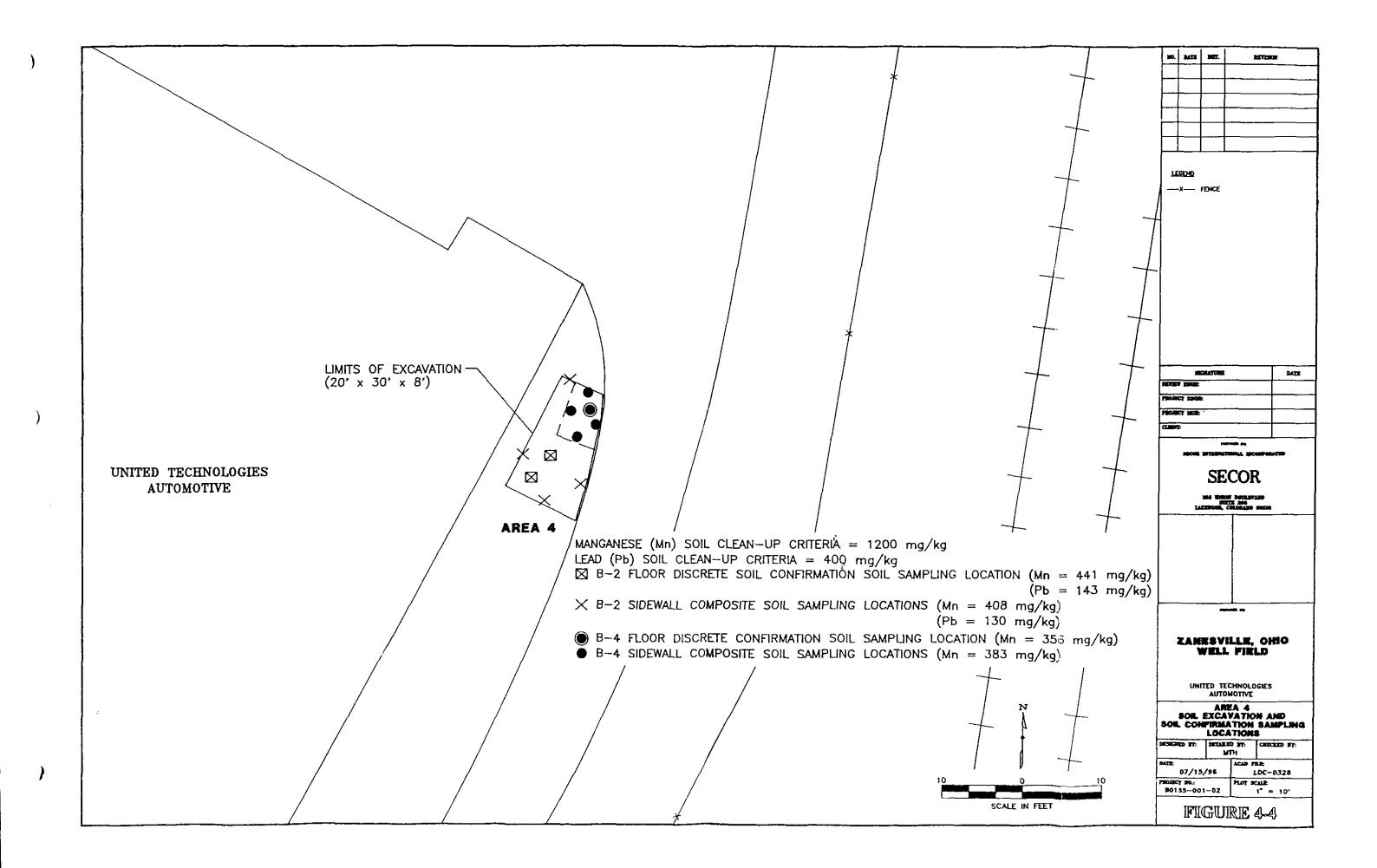
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FIGURE 3-1 CONFIRMATION SOIL SAMPLING PLAN	UTA ZANESVILLE, OHIO	SECOR 355 Union Boulevard Suite 200 Lakewood, CO 80228	DWN APPR DATE JOB NO.	JLH JRB 4-22-96 S0004-001-06
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APPENDIX A

#### APPENDIX A

# SOIL CHARACTERIZATION LABORATORY RESULTS

# WASTE CHARACTERIZATION REPORT

#### Prepared For:

# UNITED TECHNOLOGIES AUTOMOTIVE Linden Avenue Zanesville, Ohio 43701

Prepared By:



505 Forest Avenue Zanesville, Ohio 43701

October 20, 1995

Linden Avenue, Zanesville, Ohio Lab No.: 045-5497

Sample Location #1 - Dark Brown / Mottled Sandy Clay Report Date: 10/20/95

Waste Characterization

EPA		REGULATORY	RESULTS
NUMBER	<u>CONTAMINANT</u>	LEVEL (mg/L)	(mg/L)
D004	Arsenic	5.0	0.002
D005	Barium	100.0	0.059
D018	Benzene	0.5	< 0.005
D006	Cadmium	1.0	0.073
D019	Carbon Tetrachloride	0.5	< 0.005
D020	Chlordane	0.03	< 0.010
D021	Chlorobenzene	100.0	< 0.005
D022	Chloroform	6,0	< 0.005
D007	Chromium	5.0	0.010
D023	o-Cresol	200.0	< 0.100
D024	m-Cresol	200.0	< 0.100
D025	p-Cresol	200.0	< 0.100
D026	Cresol	200.0	< 0.100
D016	2,4-D	10.0	< 0.050
D027	1,4-Dichlorobenzene	7.5	< 0.005
D028	1,2-Dichloroethane	0.5	< 0.050
D029	1,1-Dichloroethylene	0.7	< 0.005
D030	2,4-Dinitrotoluene	0.13	< 0.100
D012	Endrin	0.02	< 0.010
D031	Heptachlor(and epoxide)	0.008	< 0.008
D032	Hexachlorobenzene	0.13	< 0.100
D033	Hexachlorobutadiene	0.5	< 0.100
D034	Hexachloroethane	3.0	< 0.100
D008	Lead	5.0	0.008
D013	Lindane (gamma BHC)	0.4	< 0.100
D009	Mercury	0.2	0.0016
D014	Methoxychlor	10.0	< 0.100
D035	Methyl Ethyl Ketone	200.0	< 0.005
D036	Nitrobenzene	2.0	< 0.100
D037	Pentachlorophenol	100.0	< 0.100
D038	Pyridine	5.0	< 0.100
D010	Selenium	1.0	< 0.005
D011	Silver	5.0	0.043
D039	Tetrachloroethylene	0.5	< 0.005
D015	Toxaphene	0.5	< 0.005
D040	Trichloroethylene	0.5	< 0.005
D041	2,4,5-Trichlorophenol	400.0	< 0.100
D042	2,4,6-Trichlorophenol	2.0	< 0.100
D043	Vinyl Chloride	0.2	< 0.010

Cyanide Reactive: < 0.2 mg/LSulfide Reactive: < 0.2 mg/L

Corrosivity: 6.6 S.U.
Flash Point: > 200 °F
Paint Filter Test: No Free Liquids

T/M.Quinn

Released By,

Lab Consultant

T.R. Shiplett
OA/OCCO QA/QC Officer

Linden Avenue, Zanesville, Ohio

Lab No.: 045-5497

Sample Location #1 - Dark Brown / Mottled Sandy Clay

Report Date: 10/20/95 Waste Characterization

QA/QC Data

#### **VOLTILE ORGANIC COMPOUNDS** Analyses by SW-846, Method 8240

Spike Recovery Benzene Chloroform Methyl Ethyl Keytone	Spike Conc.	Recovered	% Recovery
	20.0 mg/L	21.1 mg/L	106 %
	200 mg/L	203.4 mg/L	102 %
	200 mg/L	198.6 mg/L	99 %
Surrogate Recovery Toluene d <sub>8</sub> p-Bromofluorobenzene	<u>Surr. Couc.</u>	Recovered	% Recovery
	50.0 μg/L	48.9 μg/L	98 %
	50.0 μg/L	50.7 μg/L	101 %

#### SEMI-VOLATILES - Extraction by SW-846, Method 3510; Analyses by SW-846 Method 8250

Spike Recovery	Spike Conc.	<u>Recovered</u>	% Recovery
2,4,6-Trichorophenol	2.00 mg/L	2.30 mg/L	115 %
Methoxychlor	10.0 mg/L	10.6 mg/L	106 %
o-Cresol	100 mg/L	103.2 mg/L	103 %
Surrogate Recovery	Surr. Conc.	Recovered	% Recovery
	Surr. Couc.	Mecovered	70 KCCUYCI Y
4-Terphenyl d-14	40 mg/L	40.8 mg/L	102 %
			<del></del>

#### METALS By Methods Outlined in SW-846

Spike Recovery	Sample Conc.	Spike Conc.	Recovered	% Recovery
Arsenic	0.002 mg/L	0.010 mg/L	0.011 mg/L	91.7 %
Barium	0.059 mg/L	10.00 mg/L	10.050 mg/L	99.9 %
Cadmium	0.073 mg/L	0.100 mg/L	0.184 mg/L	106 %
Chromium	0.010 mg/L	0.100 mg/L	0.116 mg/L	94.8 %
Lead	0.008 mg/L	0.100 mg/L	0,103 mg/L	95.4 %
Mercury	0.0016 mg/L	0.001 mg/L	0.0022  mg/L	84.6 %
Selenium	<0.005 mg/L	0.010 mg/L	0.012 mg/L	120 %
Silver	0.043 mg/L	0.010 mg/L	0.051 mg/L	96.2 %

United Technologies Linden Avenue, Zanesville, Ohio

Lab No.: 045-5498

Sample Location #2 - Light Brown Sandy Clay Report Date: 10/20/95

Waste Characterization

EPA		REGULATORY	RESULTS
NUMBER	CONTAMINANT	LEVEL (mg/L)	(mg/L)
D004	Arsenic	5.0	0.004
D005	Barium	100.0	0.049
D018	Benzene	0.5	< 0.005
D006	Cadmium	1.0	0.070
D019	Carbon Tetrachloride	0.5	< 0.005
D020	Chlordane	0.03	< 0.010
D021	Chlorobenzene	100.0	< 0.005
D022	Chloroform	6.0	< 0.005
D007	Chromium	5.0	0.007
D023	o-Cresol	200.0	< 0.100
D024	m-Cresol	200.0	< 0.100
D025	p-Cresol	200.0	< 0.100
D026	Cresol	200.0	< 0.100
D016	2,4-D	10.0	< 0.050
D027	1,4-Dichlorobenzene	7.5	< 0.005
D028	1,2-Dichloroethane	0.5	< 0.050
D029	1,1-Dichloroethylene	0.7	< 0.005
D030	2,4-Dinitrotoluene	0.13	< 0.100
D012	Endrin	0.02	< 0.010
D031	Heptachlor(and epoxide)	0.008	< 0.008
D032	Hexachlorobenzene	0.13	< 0.100
D033	Hexachlorobutadiene	0.5	< 0.100
D034	Hexachloroethane	3.0	< 0.100
D008	Lead	5.0	< 0.006
D013	Lindane (gamma BHC)	0.4	< 0.100
D009	Mercury	0.2	< 0.0001
D014	Methoxychlor	10.0	< 0.100
D035	Methyl Ethyl Ketone	200.0	< 0.005
D036	Nitrobenzene	2.0	< 0.100
D037	Pentachlorophenol	100.0	< 0.100
D038	Pyridine	5.0	< 0.100
D010	Selenium	1.0	< 0.005
D011	Silver	5.0	< 0.003
D039	Tetrachloroethylene	0.5	< 0.005
D015	Toxaphene	0.5	< 0.005
D040	Trichloroethylene	0.5	< 0.005
D041	2,4,5-Trichlorophenol	400.0	< 0.100
D042	2,4,6-Trichlorophenol	2.0	< 0.100
D043	Vinyl Chloride	. 0,2	< 0.010

Cyanide Reactive: < 0.2 mg/L Sulfide Reactive: < 0.2 mg/L Corrosivity: 6.9 S.U. Flash Point: > 200 °F

Paint Filter Test: No Free Liquids

T.M.Quinn

Lab Consultant

T.R. Shiplett
QA/QC Officer

Linden Avenue, Zanesville, Ohio

Lab No.: 045-5498

Sample Location #2 - Light Brown Sandy Clay Report Date: 10/20/95

Waste Characterization

QA/QC Data

#### VOLTILE ORGANIC COMPOUNDS Analyses by SW-846, Method 8240

Spike Recovery	Spike Conc.	<u>Recovered</u>	% Recovery
Benzene	20.0  mg/L	19.6 mg/L	104 %
Chloroform	200 mg/L	207.1 mg/L	98 %
Methyl Ethyl Keytone	200 mg/L	197.8 mg/L	99 %
Surrogate Recovery	Surr. Conc.	<u>Recovered</u>	% Recovery
Toluene d <sub>s</sub>	50.0 μg/L	52.8 μg/L	106 %
p-Bromofluorobenzene	50.0 μg/L	51.3 μg/L	103 %

#### <u>SEMI-VOLATILES</u> - Extraction by SW-846, Method 3510; Analyses by SW-846 Method 8250

<u> Spike Recovery</u>	Spike Conc.	<u>Recovered</u>	% Recovery
2,4,6-Trichorophenol	2.00 mg/L	1.96 mg/L	98 %
Methoxychlor	10.0 mg/L	10.8 mg/L	108 %
o-Cresol	100 mg/L	105.2 mg/L	105 %
Surrogate Recovery	Surr. Conc.	Recovered	% Recovery
4-Terphenyl d-14	40 mg/L	42.6 mg/L	106 %
2-Fluorobiphenyl	40 mg/L	40,3 mg/L	101 %

Linden Avenue, Zanesville, Ohio

Lab No.: 045-5499

Sample Location #3 - Reddish Brown Clay

Report Date: 10/20/95 Waste Characterization

EPA		REGULATORY	RESULTS
NUMBER	CONTAMINANT	LEVEL (mg/L)	<u>(mg/L)</u>
D004	Arsenic	5.0	< 0.001
D005	Barium	100.0	. 0,030
D018	Benzene	0.5	< 0.005
D006	Cadmium	1.0	0.038
D019	Carbon Tetrachloride	0.5	< 0.005
D020	Chlordane	0.03	< 0.010
D021	Chlorobenzene	100.0	< 0.005
D022	Chloroform	6.0	< 0.005
D007	Chromium	5.0	0.008
D023	o-Cresol	200.0	< 0.100
D024	m-Cresol	200.0	< 0.100
D025	p-Cresol	200.0	< 0.100
D026	Cresol	200.0	< 0.100
D016	2,4-D	10.0	< 0.050
D027	1,4-Dichlorobenzene	7.5	< 0.005
D028	1,2-Dichloroethane	0.5	< 0.050
D029	1,1-Dichloroethylene	0.7	< 0.005
D030	2,4-Dinitrotoluene	0.13	< 0.100
D012	Endrin	0.02	< 0.010
D031	Heptachlor(and epoxide)	0.008	< 0.008
D032	Hexachlorobenzene	0.13	< 0.100
D033	Hexachlorobutadiene	0.5	< 0.100
D034	Hexachloroethane	3.0	< 0.100
D008	Lead	5.0	< 0.006
D013	Lindane (gamma BHC)	0.4	< 0.100
D009	Mercury	0.2	0.0021
D014	Methoxychlor	10.0	< 0.100
D035	Methyl Ethyl Ketone	200.0	< 0.005
D036	Nitrobenzene	2.0	< 0.100
D037	Pentachlorophenol	100.0	< 0.100
D038	Pyridine	5.0	< 0.100
D010	Selenium	1.0	< 0.005
D011	Silver	5.0	< 0.003
D039	Tetrachloroethylene	0.5	< 0.005
D015	Toxaphene	0.5	< 0.005
D040	Trichloroethylene	0.5	< 0.005
D041	2,4,5-Trichlorophenol	400.0	< 0.100
D042	2,4,6-Trichlorophenol	2.0	< 0.100
D043	Vinyl Chloride	0.2	< 0.010

Cyanide Reactive: < 0.2 mg/L Sulfide Reactive: < 0.2 mg/L

Corrosivity: 5.0 S.U. Flash Point: > 200 °F

Paint Filter Test: No Free Liquids

T.M.Quinn Lab Consultant

Released By

Total L. Shiplett
T.R. Shiplett
QA/QC Officer

United Technologies Linden Avenue, Zanesville, Ohio

Lab No.: 045-5499

Sample Location #3 - Reddish Brown Clay Report Date: 10/20/95

Waste Characterization

QA/QC Data

#### **VOLTILE ORGANIC COMPOUNDS** Analyses by SW-846, Method 8240

Spike Recovery	Spike Conc.	Recovered	% Recovery
Benzene	20.0 mg/L	22.8 mg/L	114 %
Chloroform	200 mg/L	199.7 mg/L	100 %
Methyl Ethyl Keytone	200 mg/L	203.1 mg/L	102 %
Surrogate Recovery	Surr. Conc.	Recovered	% Recovery
Toluene d <sub>s</sub>	50.0 μg/L	47.6 μg/L	95.2 %
p-Bromofluorobenzene	50.0 μg/L	50,6 μg/L	101.2 %

#### SEMI-VOLATILES - Extraction by SW-846, Method 3510; Analyses by SW-846 Method 8250

Spike Recovery	Spike Conc.	Recovered	% Recovery
2,4,6-Trichorophenol	2.00 mg/L	2.26 mg/L	113 %
Methoxychlor	10.0 mg/L	11.1 mg/L	111 %
o-Cresol	100 mg/L	100.7 mg/L	101 %
Surrogate Recovery	Surr. Conc.	Recovered	% Recovery
4-Terphenyl d-14	40 mg/L	40.5 mg/L	101 %
2-Fluorobiphenyl	40 mg/L	38.2 mg/L	96 %

Linden Avenue, Zanesville, Ohio

Lab No.: 045-5500

Sample Location #4 - Yellow Sandstone

Report Date: 10/20/95 Waste Characterization

EPA		REGULATORY	RESULTS
NUMBER	CONTAMINANT	LEVEL (mg/L)	<u>(mg/L)</u>
D004	Arsenic	5.0	0.025
D005	Barium	100.0	0.008
D018	Benzene	0.5	< 0.005
D006	Cadmium	1.0	0.071
D019	Carbon Tetrachloride	0.5	< 0.005
D020	Chlordane	0.03	< 0.010
D021	Chlorobenzene	100.0	< 0.005
D022	Chloroform	6.0	< 0.005
D007	Chromium	5.0	0.031
D023	o-Cresol	200.0	< 0.100
D024	m-Cresol	200.0	< 0.100
D025	p-Cresol	200.0	< 0.100
D026	Cresol	200.0	< 0.100
D016	2,4-D	10.0	< 0.050
D027	1,4-Dichlorobenzene	7.5	< 0.005
D028	1,2-Dichloroethane	0.5	< 0.050
D029	1,1-Dichloroethylene	0.7	< 0.005
D030	2,4-Dinitrotoluene	0.13	< 0.100
D012	Endrin	0.02	< 0.010
D031	Heptachlor(and epoxide)	0.008	< 0.008
D032	Hexachlorobenzene	0.13	< 0.100
D033	Hexachlorobutadiene	0,5	< 0.100
D034	Hexachloroethane	3.0	< 0.100
D008	Lead	5,0	1.567
D013	Lindane (gamma BHC)	0,4	< 0.100
D009	Mercury	0.2	0.0031
D014	Methoxychlor	10.0	< 0.100
D035	Methyl Ethyl Ketone	200,0	< 0.005
D036	Nitrobenzene	2.0	< 0.100
D037	Pentachlorophenol	100,0	< 0.100
D038	Pyridine	5.0	< 0.100
D010	Selenium	1.0	< 0.005
D011	Silver	5.0	0.003
D039	Tetrachloroethylene	0.5	< 0.005
D015	Toxaphene	0.5	< 0.005
D040	Trichloroethylene	0.5	< 0.005
D041	2,4,5-Trichlorophenol	400.0	< 0.100
D042	2,4,6-Trichlorophenol	2.0	< 0.100
D043	Vinyl Chloride	0.2	< 0.010

Cyanide Reactive: < 0.2 mg/L Sulfide Reactive: < 0.2 mg/L

Corrosivity: 6.6 S.U. Flash Point: > 200 °F

Paint Filter Test: No Free Liquids

Released By,

T.M.Qninn Lab Consultant Total L. Shiplett
T.R. Shiplett
QA/QC Officer

Linden Avenue, Zanesville, Ohio

Lab No.: 045-5500

Sample Location #4 - Yellow Sandstone

Report Date: 10/20/95 Waste Characterization

QA/QC Data

#### VOLTILE ORGANIC COMPOUNDS Analyses by SW-846, Method 8240

Spike Recovery Benzene Chloroform Methyl Ethyl Keytone	Spike Conc.	Recovered	<u>% Recovery</u>
	20.0 mg/L	19.7 mg/L	98 %
	200 mg/L	198.9 mg/L	99 %
	200 mg/L	200.6 mg/L	100 %
Surrogate Recovery Toluene d <sub>g</sub> p-Bromofluorobenzene	<u>Surr. Conc.</u>	Recovered	% Recovery
	50.0 μg/L	54.0 μg/L	108 %
	50.0 μg/L	52.1 μg/L	104 %

#### SEMI-VOLATILES - Extraction by SW-846, Method 3510; Analyses by SW-846 Method 8250

Spike Recovery 2,4,6-Trichorophenol Methoxychlor o-Cresol	<u>Spike Conc.</u> 2.00 mg/L 10.0 mg/L 100 mg/L	Recovered 2.41 mg/L 10.6 mg/L 101.5 mg/L	% Recovery 120 % 106 % 102 %
Surrogate Recovery 4-Terphenyl d-14 2-Fluorobiphenyl	Surr. Conc. 40 mg/L 40 mg/L	Recovered 41.3 mg/L 43.8 mg/L	% Recovery 103 % 110 %

Linden Avenue, Zanesville, Ohio

Lab No.: 045-5501

Sample Location #5 - Composite Report Date: 10/20/95 Waste Characterization

EPA		REGULATORY	RESULTS
NUMBER	<b>CONTAMINANT</b>	LEVEL (mg/L)	<u>(mg/L)</u>
D004	Arsenic	5.0	0.025
D005	Barium	100.0	0.008
D018	Benzene	0.5	< 0.005
D006	Cadmium	1.0	0.130
D019	Carbon Tetrachloride	0.5	< 0.005
D020	Chlordane	0.03	< 0.010
D021	Chlorobenzene	100.0	< 0.005
D022	Chloroform	6.0	< 0.005
D007	Chromium	5.0	0.012
D023	o-Cresol	200.0	< 0.100
D024	m-Cresol	200.0	< 0.100
D025	p-Cresol	200.0	< 0.100
D026	Cresol	200.0	< 0.100
D016.	2,4-D	10.0	< 0.050
D027	1,4-Dichlorobenzene	7.5	< 0.005
D028	1,2-Dichloroethane	0.5	< 0.050
D029	1,1-Dichloroethylene	0.7	< 0.005
D030	2,4-Dinitrotoluene	0.13	< 0.100
D012	Endrin	0.02	< 0.010
D031	Heptachlor(and epoxide)	0.008	< 0.008
D032	Hexachiorobenzene	0.13	< 0.100
D033	Hexachlorobutadiene	0.5	< 0.100
D034	Hexachloroethane	3.0	< 0.100
D008	Lead	5.0	0.126
D013	Lindane (gamma BHC)	0.4	< 0.100
D009	Mercury	0.2	0.0011
D014	Methoxychlor	10.0	< 0.100
D035	Methyl Ethyl Ketone	200.0	< 0.005
D036	Nitrobenzene	2.0	< 0.100
D037	Pentachlorophenol	100.0	< 0.100
D038	Pyridine	5.0	< 0.100
D010	Selenium	1.0	< 0.005
D011	Silver	5.0	< 0.003
D039	Tetrachloroethylene	0.5	< 0.005
D015	Toxaphene	0.5	< 0.005
D040	Trichloroethylene	0.5	< 0.005
D041	2,4,5-Trichlorophenol	400.0	< 0.100
D042	2,4,6-Trichlorophenol	2.0	< 0.100
D043	Vinyl Chloride	0.2	< 0.010

Cyanide Reactive: < 0.2 mg/L Sulfide Reactive: < 0.2 mg/L

Corrosivity: 6.2 S.U.

Flash Point: > 200 °F

Paint Filter Test: No Free Liquids

Released By

T.M.Quinn Lab Consultant Told R. Llydett
T.R. Shiplett
QA/QC Officer

Linden Avenue, Zanesville, Ohio

Lab No.: 045-5501

Sample Location #5 - Composite

Report Date: 10/20/95 Waste Characterization

QA/QC Data

#### VOLTILE ORGANIC COMPOUNDS Analyses by SW-846, Method 8240

Spike Recovery	Spike Conc.	Recovered	% Recovery
Benzene	20.0 mg/L	23.2 mg/L	116 %
Chloroform	200 mg/L	210.3 mg/L	105 %
Methyl Ethyl Keytone	200 mg/L	186.8 mg/L	93 %
Surrogate Recovery	Surr. Conc.	Recovered	% Recovery
Toluene d <sub>s</sub>	50.0 μg/L	47.2 μg/L	94 %
p-Bromofluorobenzene	50.0 μg/L	51.6 μg/L	103 %

#### SEMI-VOLATILES - Extraction by SW-846, Method 3510; Analyses by SW-846 Method 8250

Spike Recovery 2,4,6-Trichorophenol Methoxychlor o-Cresol	<u>Spike Conc.</u> 2.00 mg/L 10.0 mg/L 100 mg/L	Recovered 1.80 mg/L 11.7 mg/L 106.1 mg/L	% Recovery 90 % 117 % 106 %
Surrogate Recovery 4-Terphenyl d-14 2-Fluorobiphenyl	Surr. Conc.	Recovered	% Recovery
	40 mg/L	40.8 mg/L	102 %
	40 mg/L	39.6 mg/L	99 %

#### METALS By Methods Outlined in SW-846

Spike Recovery	Sample Conc.	Spike Conc.	Recovered	% Recovery
Arsenic	0.025 mg/L	0.010 mg/L	0.041 mg/L	85.4 %
Barium	0.008 mg/L	10.00 mg/L	10.16 mg/L	101 %
Cadmium	0.130 mg/L	0.100 mg/L	0.218 mg/L	94.8 %
Chromium	0.012 mg/L	0.100 mg/L	0.107 mg/L	95.5 %
Lead	0.126 mg/L	0.100 mg/L	0.251 mg/L	111 %
Mercury	0.0011 mg/L	0,001 mg/L	0.0020 mg/L	95,2 %
Selenium	<0.005 mg/L	0.010 mg/L	0.014 mg/L	<140 %
Silver	<0.003 mg/L	0,010 mg/L	0.016  mg/L	<160 %

United Technologies Linden Avenue, Zanesville, Ohio Lab No.: 045-5501

Sample Location #5 - Composite Report Date: 10/20/95

Waste Characterization

#### **DUPLICATE**

EPA		REGULATORY	RESULTS
NUMBER	CONTAMINANT	LEVEL (mg/L)	(mg/L)
D004	Arsenic	5.0	0.020
D005	Barium	100.0	0.013
D018	Benzene	0.5	< 0.005
D006	Cadmium	1.0	0.136
D019	Carbon Tetrachloride	0.5	< 0.005
D020	Chlordane	0.03	< 0.010
D021	Chlorobenzene	100.0	< 0.005
D022	Chloroform	6.0	< 0.005
D007	Chromium	5.0	0.011
D023	o-Cresol	200.0	< 0.100
D024	m-Cresol	200.0	< 0.100
D025	p-Cresol	200.0	< 0.100
D026	Cresol	200.0	< 0.100
D016	2,4-D	10.0	< 0.050
D027	1,4-Dichlorobenzene	7.5	< 0.005
D028	1,2-Dichloroethane	0.5	< 0.050
D029	I, I-Dichloroethylene	0.7	< 0.005
D030	2,4-Dinitrotoluene	0,13	< 0.100
-D012	Endrin	0.02	< 0.010
D031	Heptachlor(and epoxide)	0.008	< 0.008
D032	Hexachlorobenzene	0.13	< 0.100
D033	Hexachlorobutadiene	0.5	< 0.100
D034	Hexachloroethane	3.0	< 0.100
D008	Lead	5.0	0.131
D013	Lindane (gamma BHC)	0.4	< 0.100
D009	Mercury	0.2	0.0010
D014	Methoxychlor	10.0	< 0.100
D035	Methyl Ethyl Ketone	200.0	< 0.005
D036	Nitrobenzene	2.0	< 0.100
D037	Pentachlorophenol	100.0	< 0.100
D038	Pyridine	5.0	< 0.100
D010	Selenium	1.0	< 0.005
D011	Silver	5,0	< 0.003
D039	Tetrachloroethylene	0.5	< 0.005
D015	Toxaphene	0,5	< 0.005
D040	Trichloroethylene	0.5	< 0.005
D041	2,4,5-Trichlorophenol	400.0	< 0.100
D042	2,4,6-Trichlorophenol	2.0	< 0.100
D043	Vinyl Chloride	0.2	< 0.010

Cyanide Reactive: < 0.2 mg/L Sulfide Reactive: < 0.2 mg/L

Linden Avenue, Zanesville, Ohio

Lab No.: 045-5501

ample Location #5 - Composite

Report Date: 10/20/95
Waste Characterization

DUPLICATE

QA/QC Data

#### VOLTILE ORGANIC COMPOUNDS Analyses by SW-846, Method 8240

Spike Recovery	Spike Conc.	Recovered	% Recovery
Benzene	20.0 mg/L	21.8 mg/L	109 %
Chloroform	200 mg/L	212.1 mg/L	106 %
Methyl Ethyl Keytone	200 mg/L	190.2 mg/L	95 %
Surrogate Recovery	Surr. Conc.	Recovered	% Recovery
Toluene d <sub>s</sub>	50.0 μg/L	54.2 μg/L	108 %
p-Bromofluorobenzene	50.0 μg/L	50,2 μg/L	100 %

#### SEMI-VOLATILES - Extraction by SW-846, Method 3510; Analyses by SW-846 Method 8250

Spike Recovery	Spike Conc.	Recovered	% Recovery
2,4,6-Trichorophenol	2.00 mg/L	1.77 mg/L	88 %
Methoxychlor	10.0 mg/L	12.3 mg/L	123 %
o-Cresol	100 mg/L	101.9 mg/L	102 %
Surrogate Recovery	Surr. Conc.	Recovered	% Recovery
4-Terphenyl d-14	40 mg/L	41.3 mg/L	103 %
2-Fluorobiphenyl	40 mg/L	38.6 mg/L	96 %

.

#### APPENDIX B

#### SUBURBAN LANDFILL DISPOSAL APPROVAL

Suburban Recycling & Disposal Facility 3415 Twp. Rd. 447 Glenford, Ohio 43739 614/787-2327



October 25, 1995

Eric Phillips
United Technologies Automotive
Ave
Zanesville, OH 43701

Eric:

I am pleased to inform you that Profile WMA139324A - United Technologies - for Soil Borings has been approved until 10-30-96 for disposal at our facility with the following conditions:

No Free Liquids

If you have any questions, please call me at (614) 787-2327.

Michelle Thompson Sales Representative

cc:F:WMA139324A

-> 13,099.27 Chan Janus

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#### **APPENDIX C**

# LANDFILL DISPOSAL WEIGHT TICKETS

		DELIVER TO:		
GENERATOR:		COUNTYWIDE I		
	1	ELDA RDF (CIN		Ti i
United Technologies	hutemotive	EVERGREEN R		li li
NON RESPONSIVE	·	STONY HOLLO		11
Zanesvilk, 04 4370	<u> </u>	SUBURBAN RD	F (BROWNSVIL	LE, OHIO)
Carrier:		Company Responsib	le for Disposal C	Charges:
Vehicle No.:		KEMRON		
Via Transfer Station:				
Profile No.	Name of Waste	e Stream	Apx. Volume	Act. Weights
Wm # 139324	Lead Cont	Soil	-	Gross W29.12
				Tare We 16.31
				M. 12.81
•				
Shipper:			Date: 10-8°	- 25
Received at Transfer Station: Date:				
Received at Disposal Facility:	Tant	ay	Date: 10 - 3	11-95

GENERATOR GENERATOR

NO. 15806

# NON-HAZARDOUS WASTE MANIFEST

GENERATOR:  Unital Technologies Allowers Ville , OH 4370  Carrier:  Vehicle No.: 1233  Via Transfer Station:		DELIVER TO:  COUNTYWIDE R  ELDA RDF (CINC EVERGREEN RE STONY HOLLOW SUBURBAN RDF  Company Responsible  **Emron	CINNATI, OHIO) OF (NORTHWOO) V RDF (DAYTON F (BROWNSVILL	DD, OHIO) I, OHIO) LE, OHIO)
	None of Most	to Stream	Apx. Volume	Act. Weights
Profile No.  WMA 1393 24	Led Cont			Cross W: 42.06  Tare W: 17.24  Net W: 24.82
Shipper:  Received at Transfer Station:  Received at Disposal Facility:		Ray	Date:	

		55.4455.55		
GENERATOR:		DELIVER TO:  COUNTYWIDE F	RDE (E. SPARTA	A OHIO
GENERATOR:				•
United Technologies And	omotive	ELDA RDF (CIN	· ·	
NON RESPONSIVE		EVERGREEN R		,
	<u> </u>	STONY HOLLOV	•	,
Zanesville, OH 4370	<u></u>	SUBURBAN RDI	F (BROWNSVILI	LE, OHIO)
Carrier: J. T Sands				ł
		Company Responsib	le for Disposal C	harges:
Vehicle No.: 1233		KEMRON		
Uia Transfer Station:				
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
WMA 139324	Lead Conti	5011	~	Gross W: 27.58
				Tare We: 17.24
				Net Wt: 10.64
Shipper:	V		Date: 10-31.	-95
Received at Transfer Station:_			Date:	
Received at Disposal Facility:	Laut.	Day	Date: <u>10 -31</u>	-95

GENERATOR:  United Technologies Act  Non responsive  Zames with, OH 457.  Carrier:  Vehicle No.: 1233  Via Transfer Station:		ELDA RDF (CII	RDF (E. SPART NCINNATI, OHIO RDF (NORTHWO DW RDF (DAYTO DF (BROWNSVIL	O)) OOD, OHIO) ON, OHIO) LLE, OHIO)
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
wmf 139324	Local Com		, par voidino	Gross We 35,53
		<del> </del>		No. W. 18.29
Shipper: Chulye			Date: 10 - 3/	1-95
Received at Transfer Station:	$\bigcap_{a}$	leans	Date: <u>/</u> /3	1/95

 NON-HAZARDOUS WASTE MANIFEST NO. 158				
GENERATOR:  United Technologies Aud  Zanos ville, OH 48  Carrier: T Sa 2 d  Vehicle No.: 1224  Via Transfer Station:	<del>,</del>	DELIVER TO:  COUNTYWIDE  ELDA RDF (CIN EVERGREEN R STONY HOLLOW SUBURBAN RD  Company Responsib	CINNATI, OHIO DF (NORTHWO W RDF (DAYTO F (BROWNSVIL	) OD, OHIO) N, OHIO) LE, OHIO)
Profile No.	Name of Wast	e Stream	Apx. Volume	Act. Weights
WM# 139324	Lead Cont	Soil		Gross W: 34.84
				Not Wt: 19.86
Shipper:Received at Transfer Station:Received at Disposal Facility:		lleans	Date:	

GENERATOR:  United Technologies And Nonresponsive  Zames ville, 04 4370  Carrier:		DELIVER TO:  COUNTYWIDE I ELDA RDF (CIN EVERGREEN R STONY HOLLON SUBURBAN RD Company Responsib	CINNATI, OHIO DF (NORTHWO W RDF (DAYTO F (BROWNSVIL	) OD, OHIO) N, OHIO) LE, OHIO)
Vehicle No.: <u>1232</u> ☐ Via Transfer Station:		KEMRUN	- To To Disposar C	
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
WM# 139324			-	Gross Wr: 33 .86
				Tare We 16.31
			·	Net Wit 17.55
201 1				
Shipper:			Date: 10 - 3/-	જ
Received at Transfer Stat <u>ion:</u>			Date:	
Received at Disposal Facility:	$\langle \cdot \rangle \langle \cdot \rangle$		Date: 10 -31	195

		DELIVER TO:		
GENERATOR:		COUNTYWIDE	•	,
United Technologies Aus	smotive.	ELDA RDF,(CIN	·	
NON RESPONSIVE		EVERGREEN R		• *
		STONY HOLLOV	•	
Zanes ville, OH 437	01	SUBURBAN RDI	r (BHOMN2VIL	LE, OHIO)
Carrier:		Company Responsib	le for Disposal C	harges:
Vehicle No.:		KEMRUN		
Via Transfer Station:				
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
WM4 139324	Land Con	+ Soil	-	Gross Wt: 40.53
				Tare We 1 4.98
				Net We 25.55
Shipper:			Date:/6 - 3/	- 25
Received at Transfer Station:			Date:	
Received at Disposal Facility:	Donne W	lliany	Date: <u> </u>	1/95

GENERATOR:  United Technologies Automotive  Zones ville, OU 43701  Carrier:  Vehicle No.: 1233  Via Transfer Station:		DELIVER TO:  COUNTYWIDE RDF (E. SPARTA, OHIO)  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Company Responsible for Disposal Charges:  KEM RON		
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
WMA (39324	Lead Cont.	Soil	-	Gross Wr. 47.39 Tare Wr. 17.24 Not Wr. 30.15
Shipper: Shipper: Received at Transfer Station: Received at Disposal Facility:		•	Date: 10-3/- Date: 10/3	4.4

NO. 15812

# NON-HAZARDOUS WASTE MANIFEST

GENERATOR:  United Technologies Autor  NON RESPONSIVE  Lames ville, DH. 4370  Carrier:  Vehicle No.:  Via Transfer Station:	DELIVER TO:  COUNTYWIDE RDF (E. SPARTA, OHIO)  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Company Responsible for Disposal Charges:  Kem Rox			
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
LumA 139324	Lead Cont	Sail		Gross Wr: 41.30  Tare Wr: 14.31  Not Wr: 24.99
Shipper: Received at Transfer Station: Received at Disposal Facility:	0.1	lians	Date:	

NON-HAZARDOUS	WASTE MANIFEST	NO.	15813

GENERATOR:  United Technologies  Carrier:  Vehicle No.:	3701	DELIVER TO:  COUNTYWIDE RDF (E. SPARTA, OHIO)  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Company Responsible for Disposal Charges:  KEMRON  1			
Profile No.	Name of Was	ste Stream	Apx. Volume	Act. Weights	
WMA 139324	Lead Con	+ Sil		Circus W: 43, F9  Tare W: 14, 31  Net W: 24, 88	
Shipper:					

#### NON-HATAKDOOP MAD LE MANILED I

IVU. LUULA

		DELIVER TO:				
GENERATOR:		COUNTYWIDE I				
United Technologies Aut	in Alva	ELDA RDF (CIN				
an Passeralisivie		EVERGREEN R	-			
	-	STONY HOLLO	W RDF (DAYTO	N, OHIO)		
Zones ville, OH 437	0/	SUBURBAN RDI	F (BROWNSVIL	LE, OHIO)		
Carrier:	<u> </u>	Company Responsib	le for Disnosal C	harges:		
Vehicle No.: 1233		KEM KON		marges.		
Uia Transfer Station:						
Profile No.	Name of Wast	e Stream	Apx. Volume	Act. Weights		
WMA 139324	Lead Cont	Soil.	30 y	Gross W.: 41.77.		
				Tare We: 17.24		
				No. W. 24,53		
Shipper:						
Received at Transfer Station:						
111/10						
Received at Disposal Facility:	7/00	<u> </u>	Date:			

		DELIVER TO:			
	GENERATOR:	COUNTYWIDE	RDF (E. SPARTA	A, OHIO)	
	United Technologie Automa	tru =	ICINNATI, OHIO)		
ION I	ESPONSIVE	EVERGREEN H	DF (NORTHWO		
			W RDF (DAYTO	•	
	Zgraville, OH 48701	SUBURBAN RD	F (BROWNSVIL	LE, OHIO)	
	Carrier: J.T. Sauds	Company Responsit	ole for Disposal C	harges:	
	Vehicle No.: 1230	Kenner	•	•	
	Via Transfer Station:				
	Profile No. Name of W	/aste Stream	Apx. Volume	Act. Weights	
	Wys 139324 Brad C	ont. Soil	gouds	Gross W: 31.60	
		, ,		Tare We: 17.15	
				Net WE 14.45	
	Shipper: EBMU4		Date: //-/-	2-	
<b> </b>  F	Received at Transfer Station:		Date:		
U					
	Received at Disposal Facility:		Date:		

### NUN-MAZAMUUUS WASTE MANIFEST NO. 15815

f						
GENERATOR:			DELIVER TO:  COUNTYWIDE RDF (E. SPARTA, OHIO)  ELDA RDF (CINCINNATI, OHIO)			
United Technologies A	to motive		CINCINNATI, OHIC N RDF (NORTHWO	•		
NON RESPONSIVE	_		LOW RDF (DAYTO	•		
		$=$ $\sim$	RDF (BROWNSVIL	•		
Zomes ville, OH 43.	<u> 701                                   </u>					
Carrier: TT Sands Company Responsible for Disposal Charges:						
Vehicle No.: <u>1224</u>		KEMRON				
Via Transfer Station:						
Profile No.	Name of V	Vaste Stream	Apx. Volume	Act. Weights		
WM4 139324	Lend (	Cont. Soil		Cross Wr. 33.42		
	<u> </u>			Tare Wc 14.98		
		-		Net WE 18.44		
Shipper:						
Received at Transfer Station:	Date:	Date:				
Received at Disposal Facility:	Date: 11-1-9	Date: 11-1-95				
		1				

GENERATOR:  United Technologie  NONRESPONSIVE  Zancidle, OH  Carrier: J.T. Sand  Vehicle No.: 1931  Uia Transfer Station:	DELIVER TO:  COUNTYWIDE RDF (E. SPARTA, OHIO)  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Company Responsible for Disposal Charges:					
Profile No.	Name of Waste	Stream		Apx. Volume	Act. Weights	
WM4 139324	Bead Co	nt Soil		-	anus M. 33.85	
					Tare We 17.49	
					Na W. 1 (436	
Shipper: Date: 11-1-95						
Received at Transfer Station: Date:						
Received at Disposal Facility:	Panta	-	1	Date: 11-1-0	15	

NO. 15818

DELIVER TO:  GENERATOR:  United Technologics Automatice  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Carrier:  Company Responsible for Disposal Charges:						
Via Transfer Station:						
Profile No.  WMA 139324	Name of Waste	+ Soul	Apx. Volume	Act. Weights  Cross w 38.27  Tare W: 1 > 24  Nor W: 21.03		
Shipper:	Pleons	Date:  Date:  Date:				

NO. 15819

GENERATOR:  Vaited Tehnlogie  Zones wille, OH  Carrier: J.T. Sond  Vehicle No.: 1203	43 201	ELDA RDF (CII	RDF (E. SPART NCINNATI, OHIO RDF (NORTHWO DW RDF (DAYTO DF (BROWNSVIL	) OD, OHIO) N, OHIO) LE, OHIO)
Via Transfer Station:  Profile No.	Name of Was	te Stream	Apx. Volume	Act. Weights
WAA/39324	Lead Coal, Sall.			Gross Wc 35.17
				Tare Wt: /7.5
				Na W: 17-60
Shipper:			Date: 1/-1-4	
Received at Transfer State Received at Disposal Fac	Date:			
	anty.		Dale	

### NUN-HAZAHUUUS WASTE MANIFEST NO. 15837

<u></u>				
GENERATOR:  VAITIN Technologi  MESSONSIVE		ELDA RDF (CIN	RDF (E. SPARTA NCINNATI, OHIO) RDF (NORTHWO) W RDF (DAYTO)	) OD, OHIO) N, OHIO)
Zaxistilli, 04 43. Carrier: TT 5 ax 1. Vehicle No.: 1 2 3 6  Via Transfer Station:		Company Responsil		Charges:
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
WMA/39324	Lead Con	t. Soil		Gross W: 37.67
·				Net Wt: 30.52
Shipper: EShully			Date: //- /- 9	
Received at Transfer Station: Received at Disposal Facility:		leans	Date:	45
	<i>'</i>			

NO. 15838

GENERATOR:  United Technologie  Zanesille, OH  Carrier: J. T. Sanda  Vehicle No.: 1233		DELIVER TO:  COUNTYWIDE I  ELDA RDF (CIN  EVERGREEN R  STONY HOLLON  SUBURBAN RDI  Company Responsib	CINNATI, OHIO DF (NORTHWO W RDF (DAYTO F (BROWNSVILI	OD, OHIO) N, OHIO) LE, OHIO)	
☐ Via Transfer Station:	·				
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights	
WAA139324	Lead Co.	t. Soil		Cross Wr. 34.85	
				Tare WE 17.24.	
	-	144		No. We [ 7 6]	
Shipper:					

GENERATOR:  United Technologis  Zanerville, DA &  Carrier:  Vehicle No.: 1231		DELIVER TO:  COUNTYWIDE I  ELDA RDF (CIN  EVERGREEN R  STONY HOLLON  SUBURBAN RDI  Company Responsib	CINNATI, OHIO DF (NORTHWO W RDF (DAYTO F (BROWNSVIL	, OD, OHIO) N, OHIO) LE, OHIO)
Via Transfer Station: _				<u>.</u>
Profile No.	Name of Wast	e Stream	Apx. Volume	Act. Weights
WATA 139324	Lega Con	1,5611	•	Gross Wes 33,97
				Not Wed 10 ( 4.8
Shipper: Bholy Received at Transfer Statio	6 11		Date:	
Received at Disposal Facili	ty: Duc	l leanes	Date: <u>//-/- 7</u>	3

		DELIVER TO:				
GENERATOR:		COUNTYWIDE	RDF (E. SPART.	A, OHIO)		
United Technologies	Automotice	ELDA RDF (CIN	•	•		
IN RESPONSIVE		EVERGREEN R	•	, ,		
7. W XW 5	£71 01	STONY HOLLO		•		
ZUNCOTTE, UT		SUBURBAN RDF (BROWNSVILLE, OHIO)				
Zanculle, DN 43101  Carrier: 7.7, 5 and Company Responsible for Disposal Charge				Charges:		
Vehicle No.: 1230	Vehicle No.: 1230  Kennon					
☐ Via Transfer Station: _				•		
Profile No.	Name of Was	te Stream	Apx. Volume	Act. Weights		
LMA 139324	Lega Co.	7. 50.11	-	Gross Wr. 31.12		
				Tare Wt: /7,15		
				Net WE 13.97		
Shipper: Date: 1-1-9						
Received at Transfer Station: Date:						
Received at Disposal Facilit	Received at Disposal Facility: DWolleans Date: 11-1-95					

CENERATOR

	GENERATOR:	1 4 4,	DELIVER TO:  COUNTYWIDE  ELDA RDF (CIN		•
N RES	Zgreville, by 4		EVERGREEN R  STONY HOLLOW  SUBURBAN RD	DF (NORTHWO	OD, OHIO) N, OHIO)
R	Carrier:		Company Responsib	le for Disposal C	harges:
	Profile No.	Name of Waste	e Stream	Apx. Volume	Act. Weights
	WMA 139324			-	Gross Wc 2374
-					Tare We: 17 24
					Net W: 6.50
K	Shipper: ERWIN			Date: //- /- 9	<i>G</i>
	Received at Transfer Station:			Date:	
F	Received at Disposal Facility:	Devel	isin_	Date: _////	25
1					

GENERATOR:  United Technologies  Zanarille, OH  Carrier:  Vehicle No.: 1222  Usa Transfer Station:		ELDA RDF (CIN EVERGREEN FOR STONY HOLLO	RDF (E. SPART, ICINNATI, OHIO) RDF (NORTHWO) W RDF (DAYTO) PF (BROWNSVIL) DIE for Disposal C	) OD, OHIO) N, OHIO) LE, OHIO)
Profile No.	Name of Waste	Stroom:	Apx. Volume	Act. Weights
WMA 139324	1	out, Soil	Apx. Volume	Cross W: 37.72
				Tare We: 16.91
		·		Not Wit 208/
Shipper:			Date: 11- 2-	95
Received at Transfer Station: Received at Disposal Facility;	/	cau	Date:	195

GENERATOR:  Unit an Technologie  Z gaerille, BM  Carrier: J. 7. Sonde  Vehicle No.: 1230  Usa Transfer Station:		ELDA RDF (CINE EVERGREEN R	RDF (E. SPARTA ICINNATI, OHIO) IDF (NORTHWO W RDF (DAYTO) IF (BROWNSVILI DIE for Disposal C	OD, OHIO) N, OHIO) LE, OHIO)	
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights	
WMA 139324	Lead Cat.	. Soil	-	Gross Wz 31.09	
				Tare Wt. 4. 97 Net Wt. 6.12	
Shipper: Date: 1-2-8-					
Received at Transfer Station Received at Disposal Facility	W. 7. W.	tow	Date:	195	

					<del></del>
, NON RES	GENERATOR:  Vaifed Tachalogies Automatica  Zancille OH 43701  Carrier: JT Sank  Vehicle No.: 1272  Via Transfer Station:		DELIVER TO:  COUNTYWIDE RDF (E. SPARTA, OHIO)  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Company Responsible for Disposal Charges:		
	Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
	WMA 139324	Leal Cont	, S.4	~	Cross Wr. 31.17
					Tare Wr. 16.91
					Net WE: 14.26
	Shipper: College			Date: //- 2- 9	
	Received at Transfer Station:			Date:	
	Received at Disposal Facility:	Duriel	in	Date: (() 2 (	95

GENERATOR:  United Technology A.  Zanerville, OH 5		DELIVER TO:  COUNTYWIDE  ELDA RDF (CIN EVERGREEN R STONY HOLLOW SUBURBAN RD	DF (NORTHWO W RDF (DAYTO	) OD, OHIO) N, OHIO)	
Carrier:		Company Responsib	ole for Disposal C	Charges:	
Vernois 110					
Profile No.	Name of Wast	e Stream	Apx. Volume	Act. Weights	
WMA 139324	Lead Ca	t, 50A	_	Oross W. 32,23	
			<u> </u>	Tare Wr. 14.97	
				Na WE 17,26	
Shipper: Date: 4-2-25					
Received at Transfer Station:			Date:		
Received at Disposal Facility: Ol D. Ocamo			Date: 11/3/95		
Received at Disposal Facility:	Delle	learns_	Date: [1]3[	75	

(				
GENERATOR:  United Technologies  Zenes vilk, 14 4370  Carrier:  Vehicle No.:	<u></u>	DELIVER TO:  COUNTYWIDE IN COUNTYWIDE IN COUNTYWIDE IN COUNTYWIDE IN COUNTYWIDE IN COUNTY HOLLOW STONY HOLLOW SUBURBAN RD  Company Responsible KEMRON	CINNATI, OHIO DF (NORTHWO W RDF (DAYTO F (BROWNSVIL	) OD, OHIO) N, OHIO) LE, OHIO)
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
	Lead Cont			Gross W. 29.12 Tare W: 16.31
Shipper:				
		THE DATAB		

VON	GENERATOR:  Unital Technologies Andres	tomstive	DELIVER TO:  COUNTYWIDE F ELDA RDF (CINC EVERGREEN RI STONY HOLLOW	CINNATI, OHIO) DF (NORTHWO	OD, OHIO)
	Zames villa, OH 4370  Carrier:  Vehicle No.: 1233  Via Transfer Station:	<u></u>	SUBURBAN RDI  Company Responsib  **Emron	•	
	Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
	WMA 1393 24	Lend Cont.			Gross W: 42.06 Tare W: 17.24 Not W: 24.82
	Shipper:		<del></del>	Date: <u>/ 0 - 3/ -</u> Date:	

GENERATOR:  United Technologies And Carrier: J. T. Sands  Vehicle No.: 1233  Via Transfer Station:	-	DELIVER TO:  COUNTYWIDE I ELDA RDF (CIN EVERGREEN RI STONY HOLLON SUBURBAN RDI Company Responsib	CINNATI, OHIO) DF (NORTHWOO W RDF (DAYTOI F (BROWNSVILI	OD, OHIO) N, OHIO) LE, OHIO)
Profile No.	Name of Waste	e Stream	Apx. Volume	Act. Weights
WMA 139324	Lead Cont.	2011	-	Oross W. 27.88  Tere W.: 17.24  Not W.: 10.64
Shipper:			Date: 10-37-  Date: 10-31	_

NO. 15809

	GENERATOR:  United Technologies Aconsisted OH 4573  Carrier:  Vehicle No.: 1233  Usa Transfer Station:		ELDA RDF (CIN EVERGREEN R STONY HOLLOW SUBURBAN RD Company Responsible Kemro N	ole for Disposal C	) OD, OHIO) N, OHIO) LE, OHIO) Charges:
٠.	Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
	wm4 139324	Level Con		The volume	Gross We 35,53
					Net W: 18.29
1	Shipper: Children  Received at Transfer Station:			Date:	- g.r
	Received at Disposal Facility:	Dwie	leanis	Date: <u>/ ろ/ 3 /</u>	195

. 4					10 1 50 1		
i.	N N	ON-HAZARD	OUS WASTE MA	NIFEST I	NO. 1581		
	GENERATOR:  United Technologies Automotive  Zanes Ville, OH 48701  Carrier: 5 a 2 d S  Vehicle No.: 1224  Via Transfer Station:		DELIVER TO:  COUNTYWIDE RDF (E. SPARTA, OHIO)  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Company Responsible for Disposal Charges:  KEMRON				
100 mg/	Profile No.	Name of Waste	e Stream	Apx. Volume	Act. Weights		
	WM# 139324	Lead Cont	Soil	-	Gross Wr. 34.84		
. `					Tare Wi: 14.98		
			_		Na We 19.84		
_	Shipper:			Date: 16-21-	25		

GENERATOR

Date:\_

Date: 10/31/95

Received at Transfer Station:\_

Received at Disposal Facility:\_\_\_

	GENERATOR:		DELIVER TO: COUNTYWIDE F ELDA RDF (CIN	•	•
	United Technologies An	Londive	EVERGREEN RI	DF (NORTHWO	OD, OHIO)
N KE	SPUNSIVE		STONY HOLLOV	•	
	Zones ville, OH 4370		SUBURBAN RDI	•	· ' '
	Carrier:		Company Responsib	le for Disposal C	harace:
	Vehicle No.: 1232		Company Responsible for Disposal Charges: .  KEMRUN		
	Via Transfer Station:	····			
	Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
	WMH 139324			-	Gross W: 33 .86
			<del></del>		Terr We 16.31
					Net We 1755
	Shipper:			Date: 10 - 3/-	25
	Received at Transfer Station:			Date:	
	Received at Disposal Facility:	- Ka	1	Date: 10 -31	95
			<u> </u>		

	,	DELIVER TO:				
GENERATOR:		COUNTYWIE	E RDF (E. SPART	A, OHIO)		
Unital Technologies	Automotive		CINCINNATI, OHIO I RDF (NORTHWO			
N RESPONSIVE		STONY HOLI	OW RDF (DAYTO	N, OHIO)		
Zanes ville, OH	13701	SUBURBAN I	RDF (BROWNSVIL	LE, OHIO)		
Carrier:	<del></del>	Company Respon	sible for Disposal C	Charges:		
Vehicle No.:		KEMRON		····		
Via Transfer Station:						
Profile No.	Name of Wa	aste Stream	Apx. Volume	Act. Weights		
Wm4 139324	Land (	Ent Soil	-	Gross Wt: 40.53		
				Tare We 14.98		
				No. W. 25.55		
Shipper:						
Received at Transfer Stat	Date:					
Received at Disposal Fac	Date: 10/3//95					
				•		

		DELIVER TO:				
GENERATOR:		COUNTYWIDE RDF (E. SPARTA, OHIO)				
_		ELDA RDF (CIN	ICINNATI, OHIO	)		
United Technologies	5 Automotive	EVERGREEN F	RDF (NORTHWO	OD, OHIO)		
ION RESPONSIVE	<u>.</u>	STONY HOLLO	W RDF (DAYTO	N, OHIO)		
Zones ville, OU 43701		SUBURBAN RDF (BROWNSVILLE, OHIO)				
Carrier:		Company Responsible for Disposal Charges:				
Vehicle No.: <u>/ 233</u>		KEM RON				
Via Transfer Station:						
Profile No.	Profile No. Name of Waste		Apx. Volume	Act. Weights		
WMA 139324	Lead Cont.	Soil	-	Gross W: 47,39		
				Tare W: 17,24		
				Net Wi: 30.15		
Shipper:						
Received at Transfer Station		Date:				
Received at Disposal Facilit	y: Delle	leans	Date: 10/3	31/95		

### NO. 15812 NON-HAZARDOUS WASTE MANIFEST **DELIVER TO:** COUNTYWIDE RDF (E. SPARTA, OHIO) GENERATOR: ELDA RDF (CINCINNATI, OHIO) United Technologies Andonotive EVERGREEN RDF (NORTHWOOD, OHIO) STONY HOLLOW RDF (DAYTON, OHIO) SUBURBAN RDF (BROWNSVILLE, OHIO) Esnes ville, DH 43701 Carrier:\_\_\_\_ Company Responsible for Disposal Charges: KEMRON Vehicle No.: Via Transfer Station: Name of Waste Stream Apx. Volume Act. Weights Profile No. Leat Cont Soil LUMA 139324 Shipper: \ Received at Transfer Station:\_ Date:\_ Received at Disposal Facility: DWilliams Date: 16/3//95

	NON-HAZARDOUS WASTE M	MANIFEST	NO. 15813
GENERATOR:  United Technologies Ac  Zones VIVIe, OH 437  Carrier:  Vehicle No.:	ELDA RDF (Company Respon	DE RDF (E. SPART CINCINNATI, OHIC N RDF (NORTHWO LOW RDF (DAYTO RDF (BROWNSVII nsible for Disposal (	O) OOD, OHIO) ON, OHIO) LLE, OHIO)
Profile No.	Name of Waste Stream	Apx. Volume	Act. Weights
wm4 139324	Lead Cont Suil	-	Gross W: 43, 19
			Tare Wc 14,3
			Na WE H. 88
Shipper:		Date:	E 11-1-28

GENERATOR

Date:\_

Received at Transfer Station:\_

Received at Disposal Facility:\_

#### NON-HAZAKDOUS WASTE WANTEST

NU. LUULY

<u></u>		<del></del>			
GENERATOR:  United Technologies Aut  RESPONSIVE  Zumes ville, OH 437	·	DELIVER TO:  COUNTYWIDE I  ELDA RDF (CIN  EVERGREEN R  STONY HOLLOW  SUBURBAN RD	CINNATI, OHIO) DF (NORTHWO W RDF (DAYTO)	OD, OHIO) N, OHIO)	
Carrier:		Company Responsib	le for Disposal C	charges:	
Via Transfer Station:					
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights	
WMA 139324	Lead Cont	Soi 1	30 y	Gross W: 41.77  Tare W: 17.24  Net W: 24.53	
Shipper:					

	GENERATOR:  Vh. fed Technologica  Zgaguille, OH 4.  Carrier: J.T. Sand:  Vehicle No.: 1230  Via Transfer Station:  Profile No.  WYA 139324  Shipper: EMWLY	2701	t. Soil	CINNATI, OHIO) DF (NORTHWOO) V RDF (DAYTOI F (BROWNSVILI E for Disposal C	OD, OHIO) N, OHIO) LE, OHIO) harges:  Act. Weights  Gross Wt: 31.60  Tare Wt: 17.15
+	Shipper: EBWUF Received at Transfer Station:	i	Date:		
			\		

### INUN-HAZAKUUUS WASTE MANIFEST NO. 15815

	110111111211120001111111111111111111111					
DN RESPO	GENERATOR:  United Technologies And  Zomes ville, OH 437  Carrier: JT Sand	<u>.</u>	ELDA RDF (CIN	RDF (E. SPARTA ICINNATI, OHIO) RDF (NORTHWO W RDF (DAYTO) PF (BROWNSVIL	) OOD, OHIO) N, OHIO)	
	Carrier: $3 1 5 a \sim d$ Vehicle No.: $1224$ Usia Transfer Station:	<u></u>	Company Responsible for Disposal Charges:  KEMRON			
ļ	Profile No.	Name of Wast	e Stream	Apx. Volume	Act. Weights	
	wm4 139324	Lead Cont	. Soil		Gross W: 33.42	
					Not We 18.44	
1	Shipper:		Date: //-/-9			
-	Received at Transfer Station:_ Received at Disposal Facility:_			Date: 11-1-9		

<u></u>						
GENERATOR:  United Technologie  Zancidle, OH  Carrier: J.T. Sand		DELIVER TO:  COUNTYWIDE F ELDA RDF (CINC EVERGREEN RI STONY HOLLOW SUBURBAN RDI Company Responsib	CINNATI, OHIO) DF (NORTHWO W RDF (DAYTO) F (BROWNSVIL	OD, OHIO) N, OHIO) LE, OHIO)		
	Vehicle No.:/3³/			Company Responsible for Disposal Charges:		
Vehicle No.:/ 9						
Via Transfer Station:	Via Transfer Station:					
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights		
WM4 139324	Bead Co	nd Soil	**	0000 WE 33.85		
				Tare We 17.49		
				Na W: 16.36		
Shipper: Shiller	Shipper: Date: 11-1-95					
Received at Transfer Station:			Date:			
rioserrod at Transier Station.	Received at Transfer Station:					
Received at Disposal Facility:	touta	1	Date: 11-1-9	15		

NO. 15818

GENERATOR:  Unifed Technologica.  Zancolle, OH. 9  Carrier:  Vehicle No.: 1233  Usa Transfer Station:		ELDA RDF (C	E RDF (E. SPART, INCINNATI, OHIO) RDF (NORTHWO OW RDF (DAYTO) DF (BROWNSVIL) sible for Disposal C	OD, OHIO) N, OHIO) LE, OHIO)
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
UMA 139324	Con	t Soil		Orose W: 12.24
		-		Net WI: 21.03
Shipper:		Date:	g-	
Received at Disposal Facility:	Cleons	Date:	-95	

NO. 15819

GENERATOR:  U1: ted Tehnlog: & Alexador: Alexa		DELIVER TO:  COUNTYWIDE F  ELDA RDF (CINC EVERGREEN RI STONY HOLLOV SUBURBAN RDF  Company Responsible	CINNATI, OHIO) DF (NORTHWOO V RDF (DAYTOI F (BROWNSVILI	OD, OHIO) N, OHIO) LE, OHIO)
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
WARA 139324	Lead Co.	t. Sapl.		Ornes Wt. 35.17
	<u> </u>			Tare W: 17.5
				Na We 17-60
Shipper: Children Shipper: Received at Transfer Station: Received at Disposal Facility: _			Date: _//-/-	95

### NON-HAZAHDOUS WASTE MANIFEST NO. 1583/

			<del></del>	
GENERATOR:  Vhite Technologie Autonotive  Zancicili, 64 43701  Carrier: 775 and 15  Vehicle No.: 1236		DELIVER TO:  COUNTYWIDE RDF (E. SPARTA, OHIO)  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Company Responsible for Disposal Charges:		
Via Transfer Station:				
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
WMA/39324	Lead Con	t. Soil		Gross W: 37.67
				Tare Wt: /7.15
				Net W. 20.52
Shipper: Brilly Date: 1/- 1- 97				
Received at Transfer Station:			Date:	
Received at Disposal Facility:	Dull	Pleans	Date:	95

NO. 15838

GENERATOR:  Un: fer Technologie Aut  RESPONSIVE  Z an excille, OH 437  Carrier: J. T. Sanda  Vehicle No.: 233  Uia Transfer Station:	ELE  EVE  STO  SUE	JNTYWIDE RI A RDF (CINC ERGREEN RD DNY HOLLOW BURBAN RDF	DF (E. SPARTA INNATI, OHIO) F (NORTHWOO RDF (DAYTO) (BROWNSVILI For Disposal C	OD, OHIO) N, OHIO) LE, OHIO)
Profile No. Nar	ne of Waste Stream		Apx. Volume	Act. Weights
WAA129324 LE	ead Cont. Sois	,	-	Gross Wr. 34.85
		:		Tare Wr. 17.24.
				Net We [ 7.6]
Shipper: EBADLPE  Received at Transfer Station:  Received at Disposal Facility:	Williams		Date: Date: Date:	

	05.50		DELIVER TO:	DDE /E ODADT/	1 OUG
$\overline{}$	GENERATOR:		COUNTYWIDE F	•	, , ,
	United Technologies 1	Autonotine	ELDA RDF (CIN	CINNATI, OHIO)	1
NON RESPONS	SIVE		EVERGREEN RI	DF (NORTHWO	OD, OHIO)
			STONY HOLLOW	W RDF (DAYTO	V, OHIO)
	Zanesville, DA 43	701	SUBURBAN RDI	F (BROWNSVILI	LE, OHIO)
	Carrier:	<del></del>	Company Responsib	le for Disposal C	harges:
	Vehicle No.: 1231		Kennon	o to Disposan	goo.
	Vehicle No.: 2				
	Via Transfer Station:				3
İ	Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
	WATA 139324	Lega Cor.	, 5011	~	Cross Wes 33,97
į					Tare We 17.49
					Na Wo ( 6 ( 8 8
	Shipper: EShilly			Date: //-/- 💯	
	Received at Transfer Station:			Date:	
		0 11	~		سر
	Received at Disposal Facility:	J Wil	leaves	Date: <u>//-/- 9</u>	S

11011 11 12 11 12 000 11 10 10 10 10 10 10 10 10 10 10 10					
GENERATOR:  United Technologie Automitice  Zancrolle, BN 43701  Carrier: J.t. Sandr		ELDA RDF (CII	RDF (E. SPARTA NCINNATI, OHIO RDF (NORTHWO OW RDF (DAYTO DF (BROWNSVIL	) OD, OHIO) N, OHIO) LE, OHIO)	
Vehicle No.: \( \frac{2}{3} \cdot \)  Via Transfer Station:		Kempon	Apx. Volume	I A at 1Maighta	
Profile No.  LMA 139324	Name of Waster 29324 Lead Co.		Apx. Volume	Act. Weights  Gross Wc 3/./2	
				Tare Wr: 17,15 Not We: 13,97	
Shipper: Bate: 1-1-9-					
Received at Transfer Station: Date:					

NO. 15841

ON RE	GENERATOR:  VitaTechiologic Autor  Zacculle bh 4376  Carrier:  Vehicle No.: 12 37  Via Transfer Station:	ELDA RDF (CI   EVERGREEN   STONY HOLLS	E RDF (E. SPART NCINNATI, OHIO RDF (NORTHWO DW RDF (DAYTO DF (BROWNSVIL	OD, OHIO) N, OHIO) LE, OHIO)
	Profile No. Nan	ne of Waste Stream	Apx. Volume	Act. Weights
	WMA 139324 L	ead Cont, Sail		Gross We 2374
-				Na W: 6.50
F	Shipper: ERWI Received at Transfer Station: Careceived at Disposal Facility:	Sellisins	Date:	25

NO. 15821

### NON-HAZARDOUS WASTE MANIFEST

GENERATOR:  United Technologies  Zan wille, 6H  Carrier: J. T. Sank  Vehicle No.: 1222  Via Transfer Station:	Actor The ELDAF  EVERGE  STONY  SUBUR	TYWIDE I RDF (CIN REEN R HOLLOV BAN RD	RDF (E. SPARTA CINNATI, OHIO) DF (NORTHWO W RDF (DAYTO) F (BROWNSVIL)	OD, OHIO) N, OHIO) LE, OHIO)
Profile No.	Name of Waste Stream		Apx. Volume	Act. Weights
WMA 139324	Lead Co.t. Soil			Gross Wr. 42.02 Tare Wi: 16.91 Not Wi: 25.11
Shipper: Exhip Received at Transfer Station Received at Disposal Facility	/		Date:	

DELIVER TO:  GENERATOR:  United Technologies Automotive  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Carrier:  Company Responsible for Disposal Charges:					
Vehicle No.: <u>/ 2 2 2</u> ☐ Via Transfer Station:		Kernon			
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights	
WMA 139324		at, Soil	•	Gross W: 37.72	
~~~		• '	1	Tare We: 16.41 Not We: 208/	
Shipper:					

DELIVER TO:  GENERATOR:  Unit ca Technologic Autonotic  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Carrier:  Company Responsible for Disposal Charges:  Vehicle No.: 130  Via Transfer Station:				
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
WMA 139324	Lead Cat	. 50:/		Gross W: 31,09  Tare W: 4,97  Net W: 10.10
Shipper:				

NON RES	GENERATOR:  Va; fed Tachelog; of Automatica  Zancos (12 OH 4370)  Carrier: JT Sank  Vehicle No.: 1272  Via Transfer Station:		DELIVER TO:  COUNTYWIDE RDF (E. SPARTA, OHIO)  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Company Responsible for Disposal Charges:		
	Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
	WMA 139324	Leal Cont	, S.4	•	Gross Wr. 31.17 Tare Wr. 14.91
					Net Wt: 14, 26
	Shipper: Child		<del></del>	Date: //- २- ۶	
	Received at Disposal Facility:	Divel	cons 1	Date: <u>((</u>   <del>2</del>  (	93

NO. 15827

### NON-HAZARDOUS WASTE MANIFEST

GENERATOR:  Uhited Technology Automotive  NON RESPONSIVE  Zanesullle, OH 4370)  Carrier:  Vehicle No.:  Via Transfer Station:	DELIVER TO:  COUNTYWIDE RDF (E. SPARTA, OHIO)  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Company Responsible for Disposal Charges:		
Profile No. Name of Wa	ste Stream	Apx. Volume	Act. Weights
WMA 139324 Lead C		•	Gross W: 32,23
			Not Wt: 17,26
Shipper:	elians	Date:	

CENERATOR

		DELIVER TO:			
GENERATOR:		COUNTYWIDE	VIDE RDF (E. SPARTA, OHIO)		
United Technologie	Autorotive		NCINNATI, OHIO		
NON RESPONSIVE		EVERGREEN	RDF (NORTHWO	•	
STONY HOLLOW RDF (DAYTON, OHIO)					
ZGharille, OH 43701 SUBURBAN RDF (BROWNSVILLE, OHIO)					
Carrier:	<del></del>	Company Respons	ible for Disposal (	Charges:	
Vehicle No.: 1222		Keanor	Dioposai C		
Via Transfer Station:					
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights	
WMA 139324	Lead co	ati Soil	-	Gross Wi: 37.72	
				Tare W: 16,91	
			:	No. W. 208/	
Shipper:					
Received at Transfer Station	Date:				
Received at Disposal Facility	Received at Disposal Facility: (1) - 7 Moou				

GENERATOR:  Unit ed Technologie  Z gaerille, 8M  Carrier: J. 7. Sout  Vehicle No.: 1230  Usa Transfer Station:		ELDA RDF (CIN	F (BROWNSVILI	OD, OHIO) N, OHIO) LE, OHIO)
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
WMA 139324	Lead Cat.	. 50:/		Gross Wr. 31,09  Tare Wr. 14,97  Not Wr. 14,12
Shipper: Bully Received at Transfer Station Received at Disposal Facility	: W. E. W.	Kow	Date:	

		DELIVER TO:			
GENERATOR:		COUNTYWIDE	RDF (E. SPARTA	<sup>4</sup> , OHIO)	
Vaited Tachedogies Aut	eastin	ELDA RDF (CIN	CINNATI, OHIO)		
ION RESPONSIVE		EVERGREEN RI	DF (NORTHWO	OD, OHIO)	
		STONY HOLLOV	•	•	
		SUBURBAN RDI	SUBURBAN RDF (BROWNSVILLE, OHIO)		
Carrier JT Sand	Carrier JT Send			. 🗸	
	outpairy trooportoible for biopoedi charges,			charges:	
Vehicle No.: <u>/ २२</u> ೩	<del></del>	Kenner		· · · · · · · · · · · · · · · · · · ·	
Via Transfer Station:				*	
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights	
WMA 139324	Leal Cont	5.4	•	Gross Wc 31.17	
				Tare Wr. 16.91	
		•		Net WE 14.26	
Shipper:			Date: //- २- 9	<i></i>	
Received at Transfer Station: Date:					
Received at Disposal Facility:	Divide	como	Date:	95	

GENERATOR:  United Technology Auto  Zanerville, OH 43		ELDA RDF (CIN EVERGREEN R	RDF (E. SPARTA CINNATI, OHIO) DF (NORTHWOO W RDF (DAYTO) F (BROWNSVIL)	OD, OHIO) N, OHIO)
Carrier: Company Responsible for Disposal Charges:  Vehicle No.: Via Transfer Station:			harges:	
	ame of Waste	Stream	Apx. Volume	Act. Weights
WMA 139324 4	<del></del>		•	Gross W1 = 32,23
				Tare Wr. 14.97
		- Agip		No. W: 17,26
Shipper: Date: L-2-95				25
Received at Transfer Station: Date:		Date:		
Received at Disposal Facility:	Owe	Reims	Date: 1//3/	35

NO. 15830

# NON-HAZARDOUS WASTE MANIFEST

GENERATOR:		DELIVER TO:		•
United Tech. He	170	ELDA RDF (CINCE)  EVERGREEN RI  STONY HOLLOW	DF (NORTHWO	OD, OHIO)
Zamesville (		SUBURBAN RDI	≐ <u>(</u> BROWNSVILI	LE, OHIO)
Carrier J. T. Gove S		Company Responsib	le for Disposal C	harges:
Vehicle No.: 1222		Kemi	on	<u> </u>
Via Transfer Station:		· · · · · · · · · · · · · · · · · · ·		
Profile No.	Name of Waste	e Stream	Apx. Volume	Act. Weights
wm4-139324	Lead	CONT. So: 1	-	Gross W: 37.1/
				Tare Wt: (49)
<u> </u>				Net W.: 20-20
Shipper: Thur			Date:	
Received at Transfer Station:			Date:	<del>/</del>
Received at Disposal Facility:	Quel	ians	Date:	95

NO. 15831

## NON-HAZARDOUS WASTE MANIFEST

NON RE	GENERATOR:  United tech I  Zawesville OF  Carrier: J. T. Sawa.  Vehicle No.: 1224  Via Transfer Station:		ELDA RDF (CIN	F (BROWNSVILI	OD, OHIO) N, OHIO) LE, OHIO)
	Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
	WIMA139324			<b>-</b> .	Gross Wr. 3197
					Tare Wt. 14.98
					Net Wt: 17. 99
	Shipper:			Date:	-95
F	Received at Transfer Station:			Date:	
-	Received at Disposal Facility:	Perce	ions	Date: 11-8	95

GENERATOR:  United Tech.  Zawesv: //c Od  Carrier: J.T San  Vehicle No.:	4 43701 vd S	DELIVER TO:  COUNTYWIDE IS  ELDA RDF (CINC EVERGREEN RI STONY HOLLON SUBURBAN RDI Company Responsib	CINNATI, OHIO DF (NORTHWO W RDF (DAYTO F (BROWNSVIL	) OD, OHIO) N, OHIO) LE, OHIO)
	Name of Waste	Stream	Apx. Volume	Act. Weights
WMA 139324				Oross Wr. 42.1614
	So: 1			Tare W: 16.91
				Na We 45.73
Shipper: Date:				
Received at Transfer Station:		·	Date:	
Received at Disposal Facility:	1? Kar	1	Date: 11-8	95

GENERATOR:  United Tech.  Zanesville OH.  Carrier: J.T. Sand  Vehicle No.: 1222  Usa Transfer Station:	43701	ELDA RDF (CIN EVERGREEN FOR STONY HOLLOW) SUBURBAN RE Company Responsi	RDF (E. SPARTANCINNATI, OHIO) RDF (NORTHWO) W RDF (DAYTO) DF (BROWNSVIL) ble for Disposal Co	) OD, OHIO) N, OHIO) LE, OHIO)
Profile No. Name of Wast		e Stream	Apx. Volume	Act. Weights
WMA139324	Legd	Cont. Dil	20405.	Gross W.38 ·33
				Tare Wt: 16 ,91
				Net W. 21.42
Shipper:			Date:	
Received at Transfer Station:	Received at Transfer Station: Date:			
Received at Disposal Facility:	Part	ay	Date: 178	95

NO. 15834

# NON-HAZARDOUS WASTE MANIFEST

GENERATOR:  United tech.  Zancsville OH  Carrier: J.T. Sand  Vehicle No.:  Via Transfer Station:	<u>43</u> 70/ _S	DELIVER TO:  COUNTYWIDE R ELDA RDF (CINC EVERGREEN RI STONY HOLLON SUBURBAN RDI Company Responsib	CINNATI, OHIO) DF (NORTHWOO) W RDF (DAYTO) F (BROWNSVILI  le for Disposal C	OD, OHIO) N, OHIO) -E, OHIO)
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
WMA-139324	Lead	CONH. Soil		Gross Wr. 37.78
Shipper:			Date:	Net Wi: 20.87
Received at Transfer Station:		Date://8		

GENERATOR:  DwHed tech. A  Zancsville O  Carrier: J. T. Sawd  Vehicle No.: 1224  Uvia Transfer Station:	4 43701	ELDA RDF (CIN	ble for Disposal (	O) OOD, OHIO) ON, OHIO) LE, OHIO)
Profile No.	Name of Wast	e Stream	Apx. Volume	Act. Weights
WMA 139324	Lead	Cont. So; 1	-	Cross We: 34.14 Tare We: 14.95 Net We: 19.18
Shipper:	$\sim$		Date: Date:	

ON RE	GENERATOR:  United tech Auto  Zamesnik 4370/  Coming J.T. Sand S.		DELIVER TO:  COUNTYWIDE RDF (E. SPARTA, OHIO)  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Company Responsible for Disposal Charges:  Kenron		
	Via Transfer Station:				
1	Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
K	SMA-139324	Lego Co	ont. Soil		Gross W. 38.03
	•				Tare We: 14.98
					Na. W. 23.05
S	Shipper:			Date:/_/8/	95
A	Received at Transfer Station:_ Received at Disposal Facility:_		iems	Date:	195
F	,		·	Date:	195

GENERATOR:  _United Technologies Auto  NON RESPONSIVE  Ave.  Zanesville, OH 43701  Carrier:	s Corp	DELIVER TO:  COUNTYWIDE F ELDA RDF (CINC EVERGREEN RI STONY HOLLOV SUBURBAN RDI Company Responsib	CINNATI, OHIO) DF (NORTHWO W RDF (DAYTOI F (BROWNSVILI	OD, OHIO) N, OHIO) LE, OHIO)
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
WMA139324	Lead Cont S			Gross Wr. 31.74  Ture Wr. 14-98  Nor Wr. 22. 36
Shipper:		0	Date: ((8)	95

* •	To be the same of the book of the			NO. 15828	
GENERATOR:  UNITED TECH  SPONSIVE  Zansuille Ohi  Carrier: Jii Sand  Vehicle No.: 1224  Via Transfer Station:	<u>4</u> 570/ <u>S</u>	ELDA RDF (CII	ble for Disposal (	) OOD, OHIO) N, OHIO) LE, OHIO)	
	Name of Waste	e Stream	Apx. Volume	Act. Weights	
WMA 139324			204	33 <b>3</b>	
•				Tane Mr. 14.98	
				Na. 18.34	
Shipper: Date:					
Received at Transfer Station: Date:					
Received at Disposal Facility:   Date: 11-13-95					

i N	ON-HAZARDO	OUS WASTE MA	NIFEST	VO. 1582
GENERATOR:  JWHCA Tech.  Zg. W. J. J. J. J. J. E. E.  Carrier: J. T. Sq. W.  Vehicle No.: 1224  Via Transfer Station:	11.43701	ELDA RDF (CIN	•	) OD, OHIO) N, OHIO) LE, OHIO)
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
WMA139324			201	14.8d
	·			Na. W. 17.38
Shipper:			Date:Date:	1 13-95

N	ON-HAZARD	OUS WASTE MA	NIEEST	vo. 15825
GENERATOR:  United Tech  No. RESPONSIVE  ZGINS VIII C  Carrier: J.T. Squid.  Vehicle No.: 1232  Via Transfer Station:	34 43701	ELDA RDF (CIN EVERGREEN R	F (BROWNSVIL	) OD, OHIO) N, OHIO) LE, OHIO)
Profile No. WMA 139324	Name of Waste	Stream	Apx. Volume	Act. Weights
			30 y	Tore WE 16.31
Shipper: Shipper: Received at Transfer Station: Received at Disposal Facility:	(C)		Date: Date:	-95
		<u>'</u>		

PECHIC	No. leaves are a series and a series	ON-HAZARD	OUS WASTE MA	NIFEST	15844
NON RE	GENERATOR:  United tech:  Zaisville Cit.  Carrier: JiT Sawd  Vehicle No.: 1224  Usa Transfer Station:	4370/	DELIVER TO:  COUNTYWIDE  ELDA RDF (CIN EVERGREEN F STONY HOLLO SUBURBAN RD Company Responsit	ICINNATI, OHIO IDF (NORTHWO W RDF (DAYTO F (BROWNSVIL DIe for Disposal C	OD, OHIO) N, OHIO) LE, OHIO)
	Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
	WMA 139324	· · · · · · · · · · · · · · · · · · ·			Gross Mr. 34.76
		·			Tore Wi: 14-98
					No We 21.78
Ì	Shipper: Elly			Date:	
Į.	Received at Transfer Station:_	· 1 \		Date:	
F	Received at Disposal Facility:	() Wiel	iams	Date: / / / / :	3195

ON-HAZARD	OUS WASTE MAI	VIFEST	VO 1584
Auto. 443701	ELDA RDF (CINE) EVERGREEN R STONY HOLLON SUBURBAN RD	CINNATI, OHIO DF (NORTHWO W RDF (DAYTO F (BROWNSVIL le for Disposal (	) OD, OHIO) N, OHIO) LE, OHIO)
Name of Waste	Stream	Apx. Volume	Act. Weights
		· 20yl	Gross W. 36.36
			Jan Mr. 14.28
	į	,	N. W. H.38
		·	
		Date: ((/(3	195
Quiel	lang	Date:	3/95
	Auto 43701 AS  Name of Waste	DELIVER TO:  COUNTYWIDE I  ELDA RDF (CIN  EVERGREEN R  STONY HOLLOW  SUBURBAN RD  Company Responsib  Kemro d  Name of Waste Stream	DELIVER TO:  COUNTYWIDE RDF (E. SPART  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWO)  STONY HOLLOW RDF (DAYTO)  SUBURBAN RDF (BROWNSVIL)  Company Responsible for Disposal Of Kemrow  Name of Waste Stream  Apx. Volume  Date:  Date:

North Market Company	ON-HAZABD	OUS WASTE MAN	UFEST	IQ15829
GENERATOR: United tech	AU+0 43701	DELÍVER TO:  COUNTYWIDE F  ELDA RDF (CINC EVERGREEN RI STONY HOLLOV SUBURBAN RDF  Company Responsible  Kom Kom	RDF (E. SPARTA CINNATI, OHIO) DF (NORTHWO V RDF (DAYTO) (BROWNSVIL)	4, OH(O) OD, OH(O) N, OH(O) LE, OH(O)
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
WMA 139324			304	0mm 17 32 60(
				me 1631
	<u> </u>			Marke 16.35
	`			
Shipper: Bully		<del></del>	Date:	
Received at Transfer Station:			Date:	
Received at Disposal Facility:	tant	- aug	Date: <u> </u>	3-95

GENERATOR:  Owited Tech.  RESPONSIVE  Zewesville Off  Carrier: J. T. Seived Si  Vehicle No.:  Via Transfer Station:	7.43 701	ELDA RDF (CINE EVERGREEN FOR STONY HOLLO	•	) OD, OHIO) N, OHIO) LE, OHIO)
Profile No.	Name of Waste	e Stream	Apx. Volume	Act. Weights
WMA 139324A				Gross W: 32,65  Tare Wt: 17, 39  Net W: 15,06
Shipper: Euc Philly Received at Transfer Station: Received at Disposal Facility:		Williams	Date:Date:/ 2	

GENERATOR:  UNITED Tech  Zawes Ville  Carrier: J.T. Sawa  Vehicle No.:	OH 4370	DELIVER TO:  COUNTYWIDE I  ELDA RDF (CIN EVERGREEN R STONY HOLLON SUBURBAN RD  Company Responsib	CINNATI, OHIO) DF (NORTHWO) W RDF (DAYTO) F (BROWNSVILI Ile for Disposal C	OD, OHIO) N, OHIO) LE, OHIO)
Via Transfer Station:			IAVal	IA-A MASSILIA
Profile No.  WMA 139324A	Name of Waste	Stream	Apx. Volume	Act. Weights
				Not Wi: 15.48
Shipper:	V=+	>	Date:	

GENERATOR:  Dw. ted Tech Auto.  Zavesville OH-43701  Carrier: J.T Savds  Vehicle No.: 1230  Via Transfer Station:		ELDA RDF (CINE   EVERGREEN RESTONY HOLLO   SUBURBAN RD   Company Responsibility	DELIVER TO:  COUNTYWIDE RDF (E. SPARTA, OHIO)  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Company Responsible for Disposal Charges:			
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights		
WMA 139324 K				Gross Wi: 36.30  Tare Wi: 17.37  Not Wi: 19.22		
Shipper: Shipper: Received at Transfer Station: Received at Disposal Facility:	1	<u>a</u>	Date:Date:			

GENERATOR:  United Auto. Tech  Zonesuile 04-4370/  Carrier: JiTSands  Vehicle No.: 1230  Via Transfer Station:		DELIVER TO:  COUNTYWIDE RDF (E. SPARTA, OHIO)  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Company Responsible for Disposal Charges:  Kenion		
Profile No.	Name of Wast	e Stream	Apx, Volume	Act. Weights:
WMA 139324A				Gross Wr. 36.00
				Tare Wt: 17.37
	 			Na. WE 18.63
Shipper: Eme July Received at Transfer Station: Received at Disposal Facility:			Date:  Date:	-95

GENERATOR:  WHESPONSIVE  Zanesu: 11e 04 4370/  Carrier: J.T. Sands  Vehicle No.:  Via Transfer Station:		DELIVER TO:  COUNTYWIDE RDF (E. SPARTA, OHIO)  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Company Responsible for Disposal Charges:  Kemeon			
Profile No.	Name of Waste	e Stream	Apx. Volume	Act. Weights	
WMA 139 324 A				Gross W1: 35,39	
				Tare Wt: 17.39	
				Net WE 18.00.	
Shipper: Erre Pluse,	2.0		Date:		
Received at Transfer Station:			Date:		
Received at Disposal Facility:	tanta	4	Date: 12-4-	95	

Received at Transfer Station:_ Received at Disposal Facility:_		Villians	Date:	14/95
Shipper: Eng Phy	Ups		Date:	
				Net Wt: 18,90
WMA 139 324A	Leadca	ort. Soil		Gross W: 36, 27
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
Onited Aut.  NRESPONSIVE   Zanesuille On  Carrier: J.T. Sand  Vehicle No.: 1230  Usa Transfer Station:	<u>/; 43</u> 701	ELDA RDF (CINE EVERGREEN FOR STONY HOLLO SUBURBAN RD Company Responsible Kemron	W RDF (DAYTO F (BROWNSVIL ble for Disposal (	OOD, OHIO) N, OHIO) LE, OHIO)
GENERATOR:		DELIVER TO:	RDF (E. SPART	A, OHIO)

		DELIVER TO:				
GENERATOR:			RDF (E. SPART	A, OHIO)		
United Auto 7	Teal	ELDA RDF (CIN	ICINNATI, OHIO	)		
ION RESPONSIVE		EVERGREEN F	RDF (NORTHWO	OD, OHIO)		
n		=/	W RDF (DAYTO	·		
Zavesville	14570	SUBURBAN RE	F (BROWNSVIL	LE, OHIO)		
Zanesville Carrier: ST Sand	<			•		
II .		Company Hesponsii	•	charges:		
Vehicle No.: <u>12-30</u>		<u> Lenro</u>	$\mathcal{N}_{}$			
Via Transfer Station:				·		
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights		
WMA 139324				Gross Wr. 38.49		
				Tare W.: 17.37		
				Ne W: 21.32		
Shipper: Eric Phillips Date:						
Received at Transfer Station: Date:						
Received at Disposal Facility: Pour Cy			Date: 12-5-95			

ON R	GENERATOR: UNITED Aut , To	ch.	DELIVER TO:  COUNTYWIDE F ELDA RDF (CINC EVERGREEN RD STONY HOLLOV	CINNATI, OHIO) DF (NORTHWOO W RDF (DAYTO)	) OD, OHIO) N, OHIO) <b>*</b>
	Zanes ville OH  Carrier: J. T. San  Vehicle No.: 1232  Usa Transfer Station:	ds	SUBURBAN RDF Company Responsible	le for Disposal C	Charges:
1	Profile No.	Name of Waste	e Stream	Apx. Volume	Act. Weights
	WMA 139324	Namo or reason	7 O I Gain		Gross Wt. 33.85
					Tare W: 17,39
					Net Wt: 16.46
	Shipper: Eni Philly	ps	·	Date:	
	Received at Transfer Station:			Date:	
***************************************	Received at Disposal Facility:	- Paux	104	Date: 12-5	-95

))	GENERATOR:  United Tech.  SEPONSIVE  2 aves ville of Carrier: JiT Sand  Vehicle No.: 1230  Via Transfer Station:	S	DELIVER TO:  COUNTYWIDE RDF (E. SPARTA, OHIO)  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Company Responsible for Disposal Charges:  Kemical			
- 11		Name of Waste	Stream	Apx. Volume	Act. Weights	
	WMA 139324				Gross W.: 38.86	
					Net Wt: 21.49	
	A H	<del></del>				
	Shipper:	·	<del></del>	Date:		
	Received at Transfer Station:			Date:		
	Received at Disposal Facility.	Received at Disposal Facility. Dullaris				

NO. 16385

## NON-HAZARDOUS WASTE MANIFEST

. Carrier:	ATOR:  ACC SONSIVE TE  VESUITE O  J. T. Sand  No.:	445701	DELIVER TO:  COUNTYWIDE  ELDA RDF (CIN EVERGREEN R STONY HOLLO SUBURBAN RD  Company Responsib	ICINNATI, OHIO IDF (NORTHWO W RDF (DAYTO F (BROWNSVIL	) OD, OHIO) N, OHIO) LE, OHIO)	
venicle i	10		Tem. or			
☐ Via T	ransfer Station:					
Profile No	0.	Name of Waste	e Stream	Apx. Volume	Act. Weights	
WMF	9139324				Gross #335	
					Tare W. 7.39	
*					Na W. 21.96	
Shipper: Eni Philips Date:						
Received	at Transfer Station:			Date:	-10	
Received	at Disposal Facility:	WWW	Dians	Date: 12/5	5195	

NO. 16382

ON RE	GENERATOR:  United Rut. Tech  Zervesu: 11e OH 43701  Carrier: J.T Sand S  Vehicle No.: 1230  Via Transfer Station:		DELIVER TO:  COUNTYWIDE RDF (E. SPARTA, OHIO)  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Company Responsible for Disposal Charges:  Kamion			
	Profile No.  WMA 139324	Name of Wast	e Stream	Apx. Volume	Act. Weights  Gross W: 40.47  Tare W: 7.37  Net W: 23, 05	
	Shipper:	( ) 11 1 12	Peans_	Date:  Date:	5/25	

GENERATOR:  United Auto. I  Zavesville of  Carrier: J. T. Sand:  Vehicle No.: 1232  Uvia Transfer Station:	443701	DELIVER TO:  COUNTYWIDE F ELDA RDF (CINE EVERGREEN RI STONY HOLLOW SUBURBAN RDI Company Responsib	CINNATI, OHIO) DF (NORTHWOON N RDF (DAYTO) F (BROWNSVILI	OD, OHIO) N, OHIO) LE, OHIO)			
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights			
WMA 139324				Gross W1: 40.91 Tare W1: 17.39			
				Net W. 23.52			
Shipper: En Philips Date:							
Received at Transfer Station:	1		Date:				
Received at Disposal Facility:	DWill	unis_	Date: 12/5	5 AS			

NON	GENERATOR:  Uwited Aut. Tech  Zonesuille Of 43701  Carrier: J.T Sands  Vehicle No.: 1130  Via Transfer Station:		DELIVER TO:  COUNTYWIDE RDF (E. SPARTA, OHIO)  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Company Responsible for Disposal Charges:  Kemoom			
	Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights	
	WMA 139324			, p.i. Voidino	Gross Wr. 39.47	
		-			Tare Wt. 17.37	
	·				New 22.30	
	Shipper:			Date: 1 2/5	45	
	Received at Transfer Station:			Date:		
	Received at Disposal Facility:	Dulei	am_	Date: 12(5)	95	

	No	ON-HAZARD	OUS WASTE MA	NIFEST	NO. 16387
N RE	GENERATOR:  UNited Aut. 1	Tech	DELIVER TO:  COUNTYWIDE  ELDA RDF (CIN	ICINNATI, OHIC	D)
	Zancsu; 11e C Carrier: J.T Sand. Vehicle No.:	<u>s</u>	STONY HOLLO SUBURBAN RE Company Responsil	DF (BROWNSVII	LLE, OHIO)
	Venicle No.:				
	Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
	WMA 138324				Gross W: 3776
					Net W 20.37
	Shipper: Emi Phi	lya		Date:	
Н	Received at Transfer Station:_ Received at Disposal Facility:_	Dishie	liamo	Date:	15/95
Ħ			•		

GENERATOR:  United Aut. To  Zanesville off.  Carrier: J.T. Sand S  Vehicle No.: 1230  Usa Transfer Station:	<u>43701</u>	ELDA RDF (CIN	ole for Disposal C	) OD, OHIO) N, OHIO) LE, OHIO)	
Profile No.	Name of Waste	e Stream	Apx. Volume	Act. Weights	
WMA 139324		<u> </u>		Gross W: 40.25	
				Tare We: 17.37	
				Net We 2388	
		:			
Shipper: Date:					
Received at Transfer Station:	Date:				
Received at Disposal Facility:	Duly	lliams	Date:/ <del>2</del> /	15/95	

NO. 16381

		DELIVER TO:		
GENERATOR:		COUNTYWIDE	RDF (E. SPART	A, OHIO)
United Aut - 7	Trans h	ELDA RDF (CIN	CINNATI, OHIO	)
ON RESPONSIVE	<u>(C-7</u>	EVERGREEN R	•	•
1 .		STONY HOLLO	•	•
Zanesville 06	143701	SUBURBAN RD	F (BROWNSVIL	LE, OHIO)
Carrier: J.T Sond		Company Responsit	olo for Dienocal (	harace:
Vehicle No.:		Kemcon	ne ioi Disposai C	marges.
	<del></del>			•
Via Transfer Station:	· • • • • • • • • • • • • • • • • • • •	- Ctroom	I Any Makiman	TA at 10/air-bia 1
Profile No.	Name of Wast	e Stream	Apx. Volume	Act. Weights '
Wma 139 324A				Gross Wr. 3497
				Tare Wt: 17.39
				Ner Wt: / 7, 58
0.0				
CALL.				
Shipper:	<u>.</u>		Date:	
Received at Transfer Station:	/ 1		Date:	
Received at Disposal Facility	: WWW	Viens	Date: 12	5195

I N	UNTIAZATIO	OGG WAGTE WA		10. 1100
GENERATOR:  United Tech  Zaiwsville of  Carrier: JiT Save  Vehicle No.: 1222	4.4370/	ELDA RDF (CIN	ole for Disposal (	OD, OHIO) N, OHIO) LE, OHIO)
	·	- 01	IA av Valuma	Ant Mainhta
Profile No.	Name of Waste	e Stream	Apx. Volume	Act. Weights
WMA139324				Gross W. 26.44
				Tave Wt: 16.91
				Na We 9.53
				•
	<u> </u>			
Shipper:			Date:	
Shipper:			Date:	
/	+	ay	_	

:		DELIVER TO:	DE /E CRADT	A OSHOV
GENERATOR:		COUNTYWIDE F	•	•
United Tech	n Aut a	ELDA RDF (CINC	•	
ON RESPONSIVE		EVERGREEN RI	OF (NORTHWO	OD, OHIO)
		STONY HOLLOV	V RDF (DAYTO	N, OHIO)
Zainsville 0.	4 43701	SUBURBAN RDF	(BROWNSVILI	LE, OHIO)
Carrier: J. T. Sand		Company Responsible	le for Disposal C	harges:
Vehicle No.: /2>2		Kemon	/	<del></del>
☐ Via Transfer Station:				
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
WMG 139324	Cont	Soil	20	240,05 Gross Wr.
				Tare 406,91
				New W23/4
م				
Shipper: Bhill			Date:	
Received at Transfer Station:			Data	İ
neceived at Hansier Station.	MI	7	Date:	6
Received at Disposal Facility:	////		Date: ///	<u> </u>
			·	

NO. 11681

GENERATOR:  UNited Tech. Auto  Zginsville OH. 4370)  Carrier: J.T.Sand  Vehicle No.: 1230		DELIVER TO:  COUNTYWIDE RDF (E. SPARTA, OHIO)  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Company Responsible for Disposal Charges:  Kemoan			
Via Transfer Station:					
Profile No.	Name of Waste	e Stream	Apx. Volume	Act. Weights	
139324 WMA				Cross W: 36.56	
				Tare Wr. 17,37	
				Ne We 19.19	
Shipper:					
		1	•		

GENERATOR:  UNited Jech Aut  PORSIVE  Zainsville OH 43701		CINNATI, OHIO) DF (NORTHWO W RDF (DAYTO)	OD; OHIO) N, OHIO)
	Kemi	on	
Name of Waste	e Stream	Apx. Volume	Act. Weights
			Gross W: 35,61  Tare W: 17,39
			Net WC 18, 22
1	ay	Date:Date:	
	Name of Waste	ELDA RDF (CINE EVERGREEN RIESTONY HOLLOW SUBURBAN RDE Company Responsible Mane of Waste Stream	COUNTYWIDE RDF (E. SPARTA ELDA RDF (CINCINNATI, OHIO) EVERGREEN RDF (NORTHWO STONY HOLLOW RDF (DAYTO) SUBURBAN RDF (BROWNSVIL) Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Company Responsible for Disposal Compa

		DELIVER TO:				
GENERATOR:	·	COUNTYWIDE F	RDF (E. SPARTA	A, OHIO)		
United Tech	AUTO	ELDA RDF (CINC	+			
NON RESPONSIVE		EVERGREEN RI	•	•		
0		STONY HOLLOV	to get the	•		
ZaiNSVILEO	4 43701	SUBURBAN RDF	- (BHOMNSVILI	LE, OHIO)		
Carrier: J.T Sand						
		Company Responsible	· · · · · · · · · · · · · · · · · · ·	narges:		
Vehicle No.:		Kemron		*		
Via Transfer Station:			·¢	*		
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights		
WMA 139324				Gross Wr: 33.09		
		·	•	Tare WE 17.49		
				Net WE 15.60		
			L			
Shipper: Date:						
Received at Transfer Station: Date:						
Received at Disposal Facility: Jan Pay Date: 12-6-95						

r=====================================					
GENERATOR:  United Tech  Zainsuile Or		ELDA RDF (CIN	,	OD, OHIO) N, OHIO)	
Carrier: J.T Sant		Company Responsib  Kenron	•	harges:	
Vehicle No.:		_ ~ emroiv			
Profile No.	Name of Waste	e Stream	Apx. Volume	Act. Weights	
WMA 139324				Gross W1:32.90	
				Tare WE 16,91"	
				Na W: 15,99	
			}		
Shipper:					
Received at Disposal Facility:	r. Kay	<del></del>	Date: 12-6	-45	

GENERATOR:  UNited Tech K	Auto,	ELDA RDF (CIN	RDF (E. SPART ICINNATI, OHIO RDF (NORTHWO W RDF (DAYTO	)) DOD, OH(O)
Zainsville $OL$ Carrier: $J.TSands$ Vehicle No.: $1230$ Usia Transfer Station:	<u> </u>	SUBURBAN RD Company Responsib	DF (BROWNSVIL	LE, OHIO)
Profile No.	Name of Waste	e Stream	Apx. Volume	Act. Weights
WMA 139 324				Gross W: 34.2
		·		Not We: 16,9
Shipper:Received at Transfer Station:			Date:	
Received at Disposal Facility:	7. Kay		Date: 12-6	,-95

OFNEDATOR.		DELIVER TO:  COUNTYWIDE F	BDE (E SPARTA	A OHIO)
GENERATOR:			•	·
United Tech	Auto	ELDA RDF (CIN		
ION RESPONSIVE		EVERGREEN RI	•	Ť
		STONY HOLLO	•	•
ZuNesville	14,45701	SUBURBAN RD	F (BROWNSVIL	LE, OHIO)
Carrier: J. T. Sand				j
Carrier: 1 2200		Company Responsib	le for Disposal C	Charges:
Vehicle No.:		Kemron	, 	
Via Transfer Station:				
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
WMA 139324				Gross W: 34.26
				Tare We: 17.39
			<u> </u>	Net Wi: 16,87
Shipper: Bhipper:			Date:	
Ompper.	<u></u>	<del></del>	Outo	
Received at Transfer Station:		<del></del>	Date:	
Received at Disposal Facility:	tan to	<del></del>	Date: 12-6	-95
		1		

NO	1	1	$\Box$	O	7
INU		$\mathbf{L}$	$\mathbf{O}$	O	- (

N	ON-HAZARD	OUS WASTE MAI	VIFEST N	NO. 11687	
GENERATOR:  UNited Auto.  2 ainsville 04  Carrier: JTS and 8	43701	`	CINNATI, OHIO) DF (NORTHWO W RDF (DAYTOI F (BROWNSVILI	OD, OHIO) N, OHIO) LE, OHIO)	
Vehicle No.:		Kemron	•		
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights	
WMA 139324				Gross We 36.11	
				Tare Wt: 17.49	
				Net Wt: 18.47	
Shipper: Bate: 12/4/5					
Received at Transfer Station:			Date:		
Received at Disposal Facility:	Date: 1 H	6/98			

NO. 16399

				======	
GENERATOR:  Un, ted Tach. Auto.  Zants viue OHio 43701  Carrier: J. T. Sands  Vehicle No.: 1227  Via Transfer Station:		DELIVER TO:  COUNTYWIDE RDF (E. SPARTA, OHIO)  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Company Responsible for Disposal Charges:  Kemvony			
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights	
WMA 139324				Gross W1-3.5.55  Tere W: 16-9  Net W: 16-64	
Shipper: E To Part Received at Transfer Station: Received at Disposal Facility:		Iclicans	Date: Date:	6/25	

	<del></del>				
GENERATOR:  UNITED Tech. AUX S  NRESPONSIVE  Zamesu; 11e of 43701  Carrier: J.T. Sands  Vehicle No.: 1230		DELIVER TO:  COUNTYWIDE RDF (E. SPARTA, OHIO)  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Company Responsible for Disposal Charges:			
Via Transfer Station:				,	
Profile No.	Name of Wast	e Stream	Apx. Volume	Act. Weights	
WM#139324				Gross Wt: 41,57	
				Tare Wt: 17.37	
				Net Wi: 2420	
Shipper: Enc Phillip	Date:				
Received at Transfer Station:	Date:				
Received at Disposal Facility:	Owel	Ciaris	Date: 12/	u/95	

GENERATOR:  United Tech I  Zewesu; ite off 4:  Carrier: S.T. Sewds  Vehicle No.:	370/	DELIVER TO:  COUNTYWIDE I  ELDA RDF (CIN  EVERGREEN R  STONY HOLLON SUBURBAN RD  Company Responsib	CINNATI, OHIO DF (NORTHWO W RDF (DAYTO F (BROWNSVIL	) OD, OHIO) N, OHIO) LE, OHIO)
Via Transfer Station.		<u> </u>		
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
WMA 139324				Gross W.: 37.33
				Tare Wd 7-39
				Na V 194
Shipper: Euc Thelips			Date:	
Received at Transfer Station Received at Disposal Facility	11. + CO	iamo.	Date: \Jul	.95

N	ON-HAZAKU	OUS WASTE MA	NIFEST	10. TP391
GENERATOR:  UNITED Tech A  ON RESPONSIVE  Z-WESVIILE OH G  Carrier: J.T. Seinva  Vehicle No.:  Via Transfer Station:		ELDA RDF (CIN	•	) OD, OHIO) N, OHIO) LE, OHIO)
Profile No.	Name of Waste	o Stroom	Apx. Volume	Act Maighta
WMA139324	Maine of Waste	e Gueam	Apx. Volume	Act. Weights
				Tare Wt: 17. 19
				Nex Wit 20.85
Shipper: Em Hala	p		Date: 12/16	, kg
Received at Transfer Station:  Received at Disposal Facility:	(V)11.0	iams	Date:	le145

			<del></del>	<del></del>		
NON	GENERATOR: United Tech	Auto	DELIVER TO:  COUNTYWIDE F  ELDA RDF (CINC	CINNATI, OHIO)	)	
			STONY HOLLOW	W RDF (DAYTO	N, OHIO)	
	Zanenile Oh	143701	SUBURBAN RDI	F (BROWNSVIL	LE, OHIO)	
	Carrier: J.7 Squ	<u>d</u> 5	Company Responsib	ble for Disposal Charges:		
	Vehicle No.:/フスス	<del></del>	Kemvou	Kemvon		
	Via Transfer Station:					
	Profile No.	Name of Waste	e Stream	Apx. Volume	Act. Weights	
	WMA139324				Gross Wt: 42,21	
					Tare W: 14,91	
					Nei Wi: 25.30	
Shipper: Evic Philips Date:						
	Received at Transfer Station:_		Date:			
	Received at Disposal Facility:	2 ins	Date: _/ 2 / 6	4/95		

#### NON-HAZARDOUS WASTE MANIFEST NO. 16400 **DELIVER TO:** COUNTYWIDE RDF (E. SPARTA, OHIO) **GENERATOR:** ELDA RDF (CINCINNATI, OHIO) UNITED AUTO, Tech EVERGREEN RDF (NORTHWOOD, OHIO) STONY HOLLOW RDF (DAYTON, OHIO) SUBURBAN RDF (BROWNSVILLE, OHIO) Zancsville OH. 43701 Carrier: J.TSquels Company Responsible for Disposal Charges: Kemson Vehicle No.: \_ Via Transfer Station: \_\_\_ Profile No. Apx. Volume Name of Waste Stream Act. Weights WMA 139324 Shipper: Euc Phillips Date:\_ Received at Transfer Station:\_ Date: \_

**GENERATOR**'

Received at Disposal Facility: \_\_\_\_\_\_

Date: 12/6/95

NO. 16393

# NON-HAZARDOUS WASTE MANIFEST

GENERATOR:  United Tech Auta.  RESPONSIVE  Dones u; Ile 0443701  Carrier: J. T Sands  Vehicle No.:  Usa Transfer Station:			W RDF (DAYTO) F (BROWNSVIL	OD, OHIO) N, OHIO) LE, OHIO)	
Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights	
WMA 139324				Gross W1: 40 .40	
				Tare We: (7.39	
				Net Wt: 23.01	
Shipper: Emic Phillyin Date:					
Received at Transfer Station:			Date:		
Received at Disposal Facility:			Date: 12-10-0	15	

NON-HAZARDOUS WASTE MANIFEST NO. 16394							
GENERATOR:  United Tech  ZONCSUITE OF  Carrier: J.T. Sand  Vehicle No.:  Usa Transfer Station:	<u>437</u> 0 [	ELDA RDF (CII	ble for Disposal	OOD, OHIO) ON, OHIO) LLE, OHIO)			
Profile No.	Name of Was	te Stream	Apx. Volume	Act. Weights			
WMA139324				Gross W. 36,57			
				Tare Wt: 17-49			
		_		Not Wi: 19.08			
Shipper: Enc Ph	•		Date:	12/0/95			
Received at Transfer Station: Received at Disposal Facility		leams	Date: ()	4/95			

GENERATOR:  United Auto.  Zavesv: (1c O4  Carrier: 5,7 Sav  Vehicle No.: 1222	43701	ELDA RDF (CINE EVERGREEN FOR STONY HOLLO	•	) OD, OHIO) N, OHIO) LE, OHIO)	
Profile No.	Name of Wast	e Stream	Apx. Volume	Act. Weights	
WMA 139324				Gross Wt: 42.40	
				Tare Wt: /6,9/:	
				Na W. 25.49	
Shipper: Enic Flutip Date: 12/6/95					
Received at Transfer Station:	0.1-		Date:	lar	
Received at Disposal Facility:	Quile	ans	Date: 12/4	175	

NO. 16396 **DELIVER TO:** COUNTYWIDE RDF (E. SPARTA, OHIO) **GENERATOR:** ELDA RDF (CINCINNATI, OHIO) United Tech Auxo EVERGREEN RDF (NORTHWOOD, OHIO) STONY HOLLOW RDF (DAYTON, OHIO) 2 SUBURBAN RDF (BROWNSVILLE, OHIO) Zanesu, 11e04. 43201 Carrier: J.T Sands Company Responsible for Disposal Charges: Vehicle No.: 1136(corrod) Via Transfer Station: \_ Apx. Volume Act. Weights Profile No. Name of Waste Stream <sub>Gross Wi</sub> 35.82 WMA139324 Net Wi: 18-49 Shipper: EmoPhilips Date: 12/6/95 Received at Transfer Station:\_ Received at Disposal Facility:\_\_

				<del></del>	
ION F	GENERATOR: United Tech.	HU+ 2	DELIVER TO:  COUNTYWIDE F  ELDA RDF (CINC EVERGREEN RI STONY HOLLOV	CINNATI, OHIO) OF (NORTHWO	OD, OHIO)
	Zan Esville & Carrier: J.T Sand:  Vehicle No.:  Via Transfer Station:	5	Company Responsible	(BROWNSVILL	LE, OHIO)
			Stroom	Any Volume	Act Weighte
	Profile No. (NMA 139324	Name of Waste	e oueam	Apx. Volume	Act. Weights  Gross W:: 35.15  Tare Wt: 17.39  Net W:: 17.76
	Shipper: Em Phil Received at Transfer Station: Received at Disposal Facility:			Date: Date: Date:/シー仏	195

ON R	GENERATOR:  UNITED TOUR PORTION  ZENCSUILE OF  Carrier: J. 7 Sand  Vehicle No.: 1281  Usia Transfer Station:	4 42701	DELIVER TO:  COUNTYWIDE I  ELDA RDF (CIN  EVERGREEN R  STONY HOLLOW  SUBURBAN RD  Company Responsib	CINNATI, OHIO DF (NORTHWO W RDF (DAYTO F (BROWNSVIL	) OD, OHIO) N, OHIO) LE, OHIO)
	Profile No.	Name of Wast	e Stream	Apx. Volume	Act. Weights
	WMA 139324		o o o o o o o o o o o o o o o o o o o	, px. void.no	Gross Wr. 30, 45  Tare Wr. 17, 49  Not Wr. 12, 45
	Shipper: Eur Plub Received at Transfer Station:		Ccains	Date: Date:/ 2 [	4195

NO. 16389

1			DELIVER TO:		
	GENERATOR:		COUNTYWIDE F	RDF (E. SPARTA	A, OHIO)
	United Auto	Tech	ELDA RDF (CIN	•	
NON F	RESPONSIVE		STONY HOLLOV	W RDF (DAYTO	N, OHIO)
	Zanesville a			BHOWHOVE	22, 01110)
ľ	Carrier: J. TScwd	<del>!</del>	Company Responsib	le for Disposal C	harges:
ľ	Vehicle No.:/ススこ	<u> </u>	Kemr	onl	
	Via Transfer Station:				
Į	Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
	WMA139324				Gross W. 31.99
					Tare W: /6. 9
					Net Wi: 15.08
5	Shipper: EmiPhily	۵		Date: 17	4/95
F	Received at Transfer Station:			Date:	
F	Received at Disposal Facility:	Durie	2 cams	Date: 12/0	e195

GENERATOR:  ON TO TO TO TO TO TO TO TO TO TO TO TO TO		DELIVER TO:  COUNTYWIDE RDF (E. SPARTA, OHIO)  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Company Responsible for Disposal Charges:			
Profile No.	Name of Waste	e Stream	Apx. Volume	Act. Weights	
WAY19 137500				Gross Wt. 39.08;  Tare Wi: 7.39  Net Wi: 2-1-69	
Shipper:		iains	Date:	17/95	

CARRIER

NON R	GENERATOR:  ON TON TON TON TON TON TON TON TON TON T	DELIVER TO:  COUNTYWIDE RDF (E. SPARTA, OHIO)  ELDA RDF (CINCINNATI, OHIO)  EVERGREEN RDF (NORTHWOOD, OHIO)  STONY HOLLOW RDF (DAYTON, OHIO)  SUBURBAN RDF (BROWNSVILLE, OHIO)  Company Responsible for Disposal Charges:					
	Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights		
,	WMA 18/321				Gross W1: 41.82		
4					Tare W; [6.9]		
-					Net WI: 04.91		
-							
	Shipper: Date:						
	Received at Transfer Station:	_	+w )	Date: / 2/	7/95		

CARRIER

NO. 11676

GENERATOR:		DELIVER TO:  COUNTYWIDE F ELDA RDF (CINCE) EVERGREEN RO STONY HOLLOW	CINNATI, OHIO) DF (NORTHWO	OD, OHIO)
Carrier: J.T.	<del>-</del>	Company Responsib	le for Disposal C	
Vehicle No.:  Via Transfer Station:  Profile No.	Name of Waste	KC 197/0	Apx. Volume	Act. Weights
WM19 137324				Gross W: 44.95  Tare W: 14.91  Net W: 28-04
Shipper:	Devol		Date:	95

CARRIER

E1311197

NO. 11678 · DELIVER TO: COUNTYWIDE RDF (E. SPARTA, OHIO) **GENERATOR:** ELDA RDF (CINCINNATI, OHIO) United Town House **EVERGREEN RDF (NORTHWOOD, OHIO)** STONY HOLLOW RDF (DAYTON, OHIO) SUBURBAN RDF (BROWNSVILLE, OHIO) Carrier: Company Responsible for Disposal Charges: Kemion Vehicle No.: /222 Via Transfer Station: \_ Name of Waste Stream Apx. Volume Act. Weights Profile No. WMH137824 Shipper:. Date:\_ Received at Transfer Station:\_ Date:\_ Received at Disposal Facility: (Develean) 

**CARRIER** 

13/1/18

NO. 11677

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Profile No.	Name of Waste	Stream	Apx. Volume	Act. Weights
[NMM 139324				Tare W: 17.39 Net Wi: 18-96
Shipper: Children Shipper: Received at Transfer Station: Received at Disposal Facility:	(4) a. / a.	Jewin,	Date: Date:/	7/95

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CARRIER

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#### APPENDIX D

# BACKFILL MATERIAL WEIGHT TICKETS

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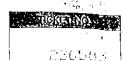
SOLD TO:

JOB NO.:

#### SIDWELL BROS., INC.

~ (614) 849 2392

FAX (614) 849-0123



4620 Limestone Valley Road Zanesville, Ohio 43701

UNITED TECHNOLOGIES ON LINDEN

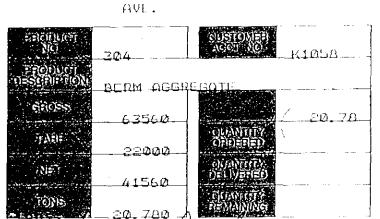
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#### SIDWELL BROS., INC.

4620 Limestone Valley Road Zanesville, Ohio 43701 (614) 849 2392

FAX (614) 849-0123

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KEMRON EVIRONMENTAL SERVICES JOB NO.:

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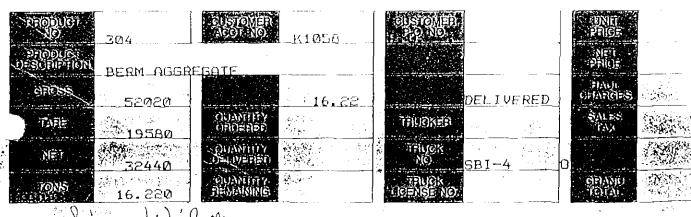
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#### SIDWELL BROS., INC.

(614) 849 2392

FAX (614) 849-0123

4620 Limestone Valley Road Zanesville, Ohio 43701

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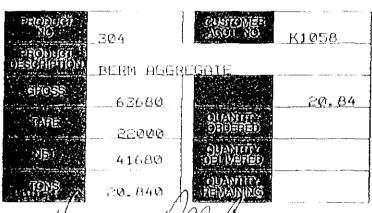
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#### SIDWELL BROS., INC.

(614) 849 2392

4620 Limestone Valley Road

Zanesville, Ohio 43701

FAX (614) 849-0123

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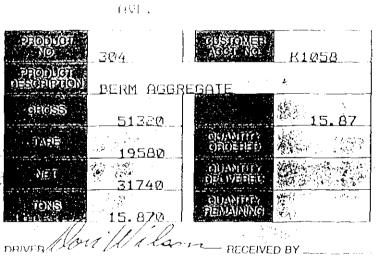
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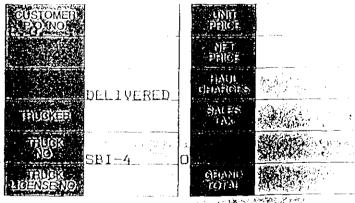
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SIDWELL BROS., INC.

4620 Limestone Valley Road Zanesville, Ohio 43701

(614) 849-2392

FAX (614) 849-0123

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(614) 849-2392

4620 Limestone Valley Road

Zanesville, Ohio 43701

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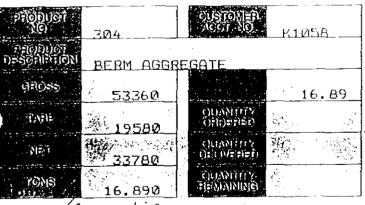
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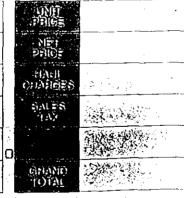
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(614) 849-2392

4620 Limestone Valley Road Zanesville, Ohio 43701

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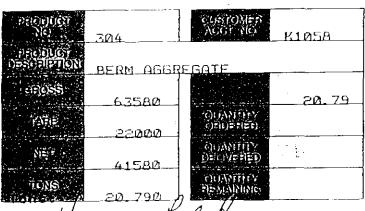
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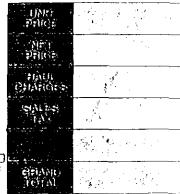
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(614) 849-2392

4620 Limestone Valley Road

Zanesville, Ohio 43701

FAX (614) 849-0123

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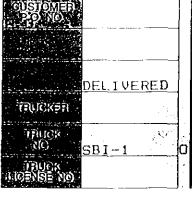
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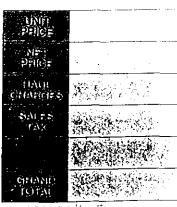
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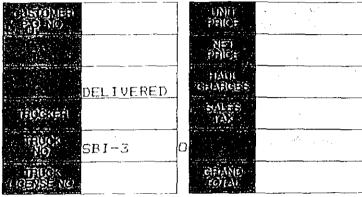
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WEIGH MASTER \_\_\_\_

(614) 849-2392

4620 Limestone Valley Road

Zanesville, Ohio 43701

FAX (614) 849-0123

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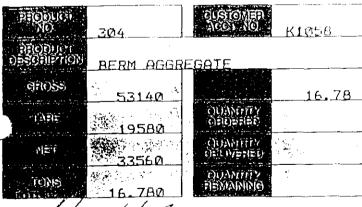
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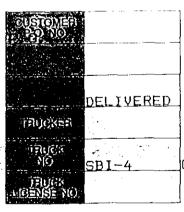
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WEIGHMASTER\_\_\_\_\_THE\_GOOD\_GUYS

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SIDWELL BROS., INC.

(614) 849-2392

FAX (614) 849-0123

236703

Zanesville, Ohio 43701

4620 Limestone Valley Road

WEIGHMASTER THE GOOD GUYS

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SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road Zanesville, Ohio 43701

FAX (614) 849-0123

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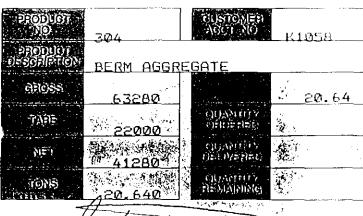
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(614) 849-2392 BI SIDWELL BROS., INC. FAX (614) 849-0123 4620 Limestone Valley Road Zancsville, Ohio 43701 836711 SOLD TO: WEIGHMASTER ... THE GOOD GUYS KEMRON EVIRONMENTAL SERVICES JOB NO.: JOB LOCATION 1 UNITED TECHNOLOGIES ON LINDEN DATE .... 11/03/00. TIME 14:40 .... AVE. K1058 BERM AGGREGATE <u>DELIVERED</u> 62780 <u>20,89</u> 21000 41780 SBI-3 20.890 Add \_\_\_\_ RECEIVED BY \_\_\_ ... \_ WEIGH MASTER DELIVERY COPY - LIME ASPHALT (614) 849 2392 SIDWELL BROS., INC. FAX (614) 849-0123 ricie i Ne 3 4620 Limestone Valley Road 237148 SOLD TO: KEMRON EVIRONI JOB NO.: JOB LOCATION NITED TECHNOLOGIES ON LINDEN DATE\_\_\_\_11/0//95 ТІМЕ Ø39:4₽ ------· 481. BERM AGGREGATE DELIVERED THURKER! SBI-2

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SIDWELL BROS., INC.

(614) 849-2392

FAX (614) 849-0123

4620 Limestone Valley Road Zanesville, Ohio 43701 237143

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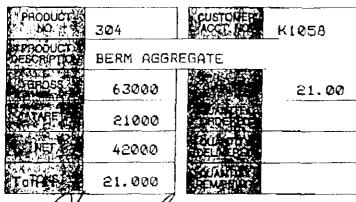
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SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road Zanesville, Ohio 43701

FAX (614) 849-0123

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KEMRON EVIRONMENTAL SERVICES

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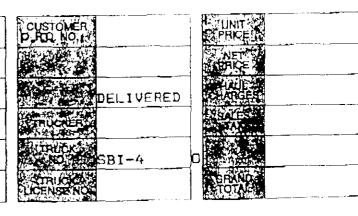
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DATE \_\_\_\_11/07/95.\_\_

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SBI SIDWELL BROS., INC. FAX (614) 849-0123 4620 Limestone Valley Road Zanesville, Ohio 43701 SOLD TO. WEIGHMASTER THE LEGICE GUYS KEMRON EVIRONMENTAL SERVICES JOB NO.: JOB LOCATION TO TO CHILD TO CHILD TO THE INDENT DATE:: 11/02/25 TIME/19:14 AVE. 304 K1958 BERM AGGREGATE .78580 25000 <sup>16</sup> 53580 SBI-10 RECEIVED BY \_\_ \_\_ \_\_\_ \_\_ WEIGH MASTER \_\_\_\_ DELIVERY COPY ASPHALT AGGREGATE - LIME (614) 849-2392 BI SIDWELL BROS., INC. FAX (614) 849-0123 4620 Limestone Valley Road 239877 Zanesville, Ohio 43701 THE GOOD GUYS KEMRON EVIRONMENTAL SERVICES SOLD TO: VEIGHMASTER .... JOB NO.: 0001 14:38 11/17/95 JOB LOCATIONNITED TECHNOLOGIES ON LIMBEN AVE. K1058 304 BERM AGGREGATE DELIVERED 20.48 62960 TRUCKER 22000. 40960 SBI-2 0 20.480 RECEIVED BY \_ ..... WEIGH MASTER \_\_\_\_ DELIVEDY CODY

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SIDWELL BROS., INC.

4620 Limestone Valley Road

Zanesville, Ohio 43701

(614) 849-2392

FAX (614) 849-0123

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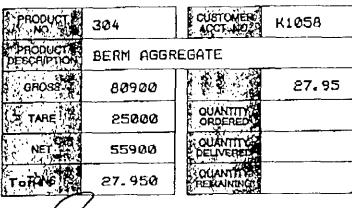
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(614) 849-2392

FAX (614) 849-0123 4620 Limestone Valley Road

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Zanesville, Ohio 43701

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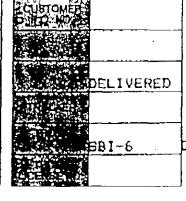
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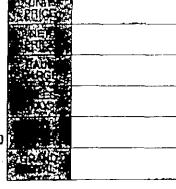
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DATE \_\_\_\_11/07/95\_\_\_

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\_\_ WEIGH MASTER \_

OFFICE COPY

(614) 849-2392

4620 Limestone Valley Road

FAX (614) 849-0123

Zanesville, Ohio 43701 SOLD TO: KEMRON EVIROI

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SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road

Zanesville, Ohio 43701

FAX (614) 849-0123

neker No. 239879

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KEMRON EVIRONMENTAL SERVICES

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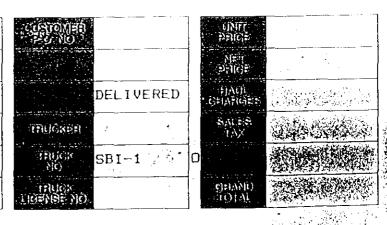
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#### SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road Zanesville, Ohio 43701

FAX (614) 849-0123



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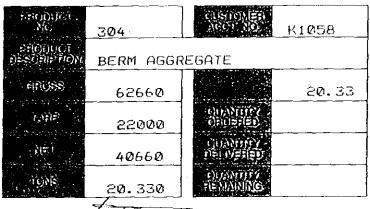
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ÜNITED TECHNOLOGIES ON LINDEN AVE.

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4620 Limestone Valley Road Zanesville, Ohio 43701 (614) 849-2392

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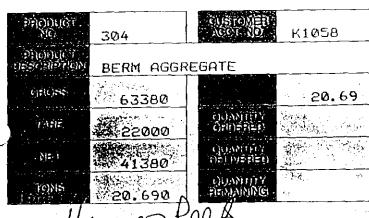
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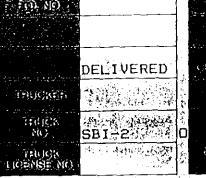
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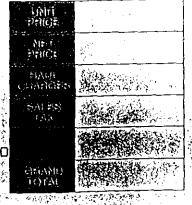
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TIME 13:43







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(614) 849-2392

FAX (614) 849-0123

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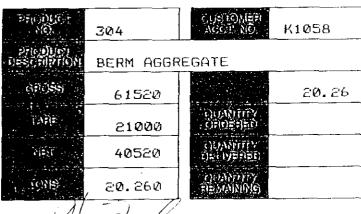
4620 Limestone Valley Road Zanesville, Ohio 43701

SOLD TO: KEMRON EVIRON JOB NO.: JOB LOCATION 01
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WEIGHMASTER THE GOOD GUYS

DATE \_\_\_\_\_11/17/95

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AGGREGATE -

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#### SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road

Zanesville, Ohio 43701

FAX (614) 849-0123

<u> 239809</u>

SOLD TO:

KEMRON EVIRONMENTAL SERVICES

WEIGHMASTER \_\_\_ THE GOOD GUYS

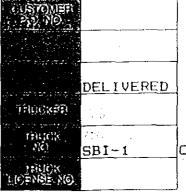
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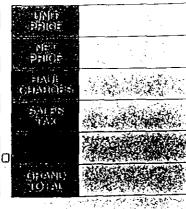
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11/17/95

TIME 12:57

K1058 <u> 30</u>4 BERM AGGREGATE (1710)55 <u>22.09</u> 66180 LATE 55000 44180





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\_\_ RECEIVED BY \_\_\_\_\_

\_ WEIGH MASTER \_\_\_

SBI

SIDWELL BROS., INC.

4620 Limestone Valley Road Zanesville, Ohio 43701

(614) 849-2392

FAX (614) 849-0123

239820

SOLD TO:

KEMRON EVIRONMENTAL SERVICES

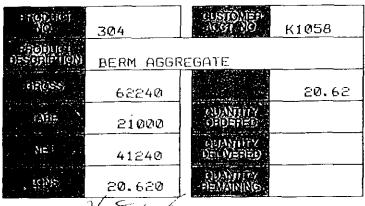
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JOB LOCATION 001

ÜNITED TECHNOLOGIES ON LINDEN AVE.

DATE \_\_\_\_\_11/17/95\_\_\_\_

TIME13:11



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**ASPHALT** 

AGGREGATE -

LIME

WEIGHMASTER \_\_\_\_\_ THE GOOD GUYS

WEIGH MASTER \_

SBI

DRIVER

SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road

Zanesville, Ohio 43701

FAX (614) 849-0123

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SOLD TO: JOB NO :

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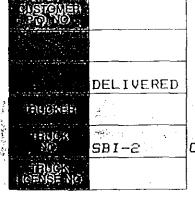
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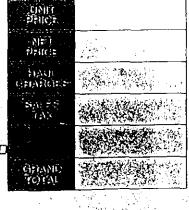
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ЗBI

## SIDWELL BROS., INC.

4620 Limestone Valley Road Zanesville, Ohio 43701 (614) 849-2392

FAX (614) 849-0123

WEIGHMASTER THE GOOD GUYS

239839

SOLD TO: JOB NO.:

KEMRON EVIRONMENTAL SERVICES JOB LOCATION 1

DATE 11/17/95

TIME 13:37

UNITED TECHNOLOGIES ON LINDEN AVE.

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ASPHALT - AGGREGATE -

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SBI

SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road

Zanesville, Ohio 43701

FAX (614) 849-0123

239857

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KEMRON EVIRONMENTAL SERVICES

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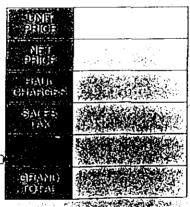
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\_\_\_\_ WEIGH MASTER \_\_\_\_

4620 Limestone Valley Road

(614) 849-2392

FAX (614) 849-0123

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Zanesville, Ohio 43701 SOLD TO:

WEIGHMASTER THE GOOD GUYS

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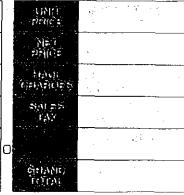
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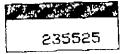
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ASPHALT - AGGREGATE - LIME

# SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road Zanesville, Ohio 43701 FAX (614) 849-0123



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KEMRON EVIRONMENTAL SERVICES

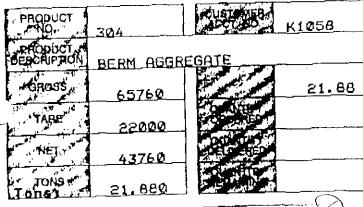
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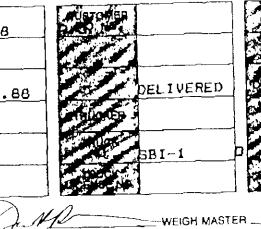
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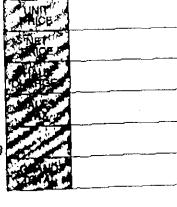
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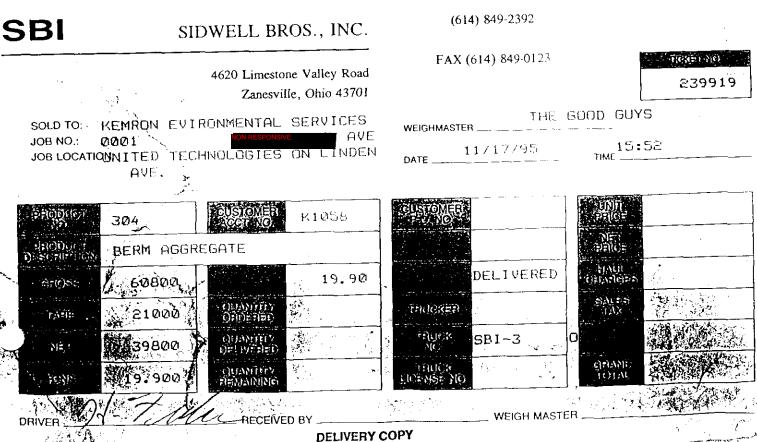
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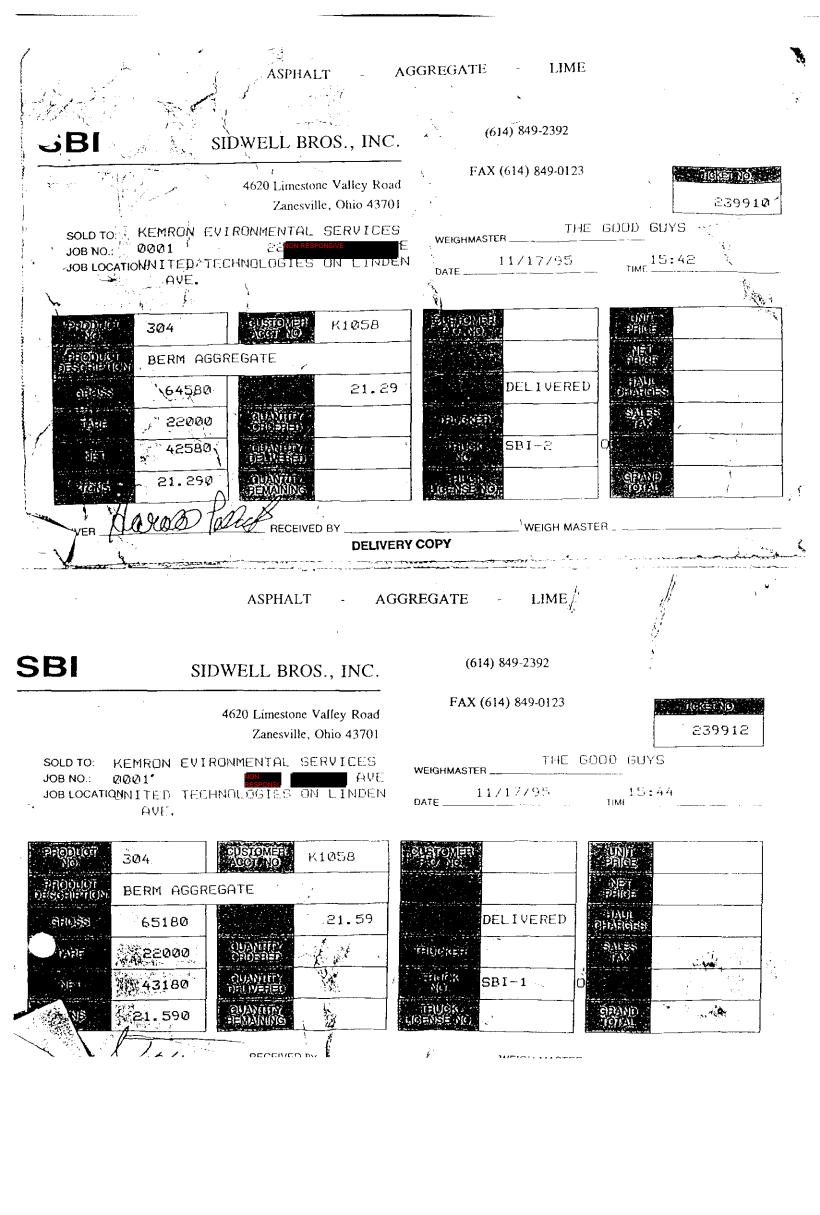




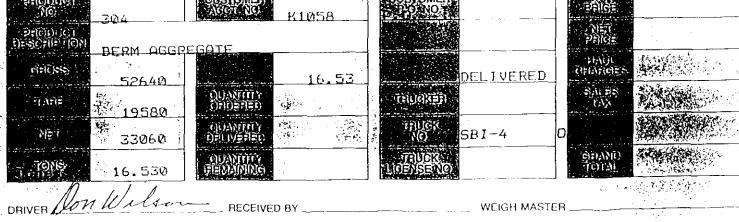


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(614) 849-2392 SBI SIDWELL BROS., INC. Friend FAX (614) 849-0123 1 4620 Limestone Valley Road Zanesville, Ohio 43701 239920 THE GOOD GUYS SOLD TO: KEMRON EVIRONMENTAL SERVICES JOB NO.: 0001 15:53 JOB LOCATIONNITED TECHNOLOGIES ON LINDEN 11717795 AVE. K1058 304 BERM AGGREGATE 85300 26.60 TABLE . 32100 53200 26.600 WEIGH MASTER \_ DELIVERY COPY ASPHALT - AGGREGATE LIME (614) 849-2392 SBI SIDWELL BROS., INC. FAX (614) 849-0123 4620 Limestone Valley Road 236582 Zanesville, Ohio 43701 SOLD TO: KEMRON EVIRONMENTAL SERVICES JOB NO.: JOB LOCATION DID 1 UNITED RECHNOLOGIES ON LINDEN AVE.



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# SIDWELL BROS., INC.

4620 Limestone Valley Road

FAX (614) 849-0123

(614) 849-2392

Zanesville, Ohio 43701 SOLD TO: KEMRON EVERONMENTAL SERVICES

THE GOOD GUYS

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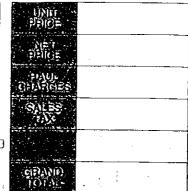
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\_ WEIGH MASTER .

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## SIDWELL BROS., INC.

(614) 849-2392

FAX (614) 849-0123

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SOLD TO: JOB NO.:

KEMRON EVIRONMENTAL SERVICES

4620 Limestone Valley Road Zanesville, Ohio 43701

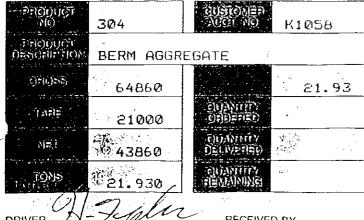
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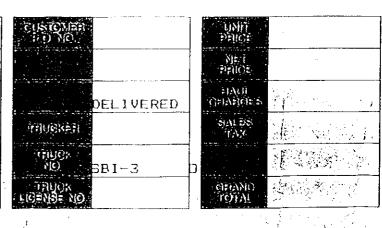
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WEIGHMASTER \_\_\_\_\_THE GOOD GUYS

DATE \_\_\_\_12/05/95\_\_\_\_

TIME E : 02





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\_\_ WEIGH MASTER \_\_.

4620 Limestone Valley Road

(614) 849-2392

FAX (614) 849-0123

Zanesville, Ohio 43701

WEIGHMASTER \_\_\_

THE GOOD GUYS

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AGGREGATE

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SBI

## SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road

Zanesville, Ohio 43701

FAX (614) 849-0123

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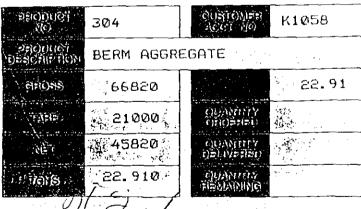
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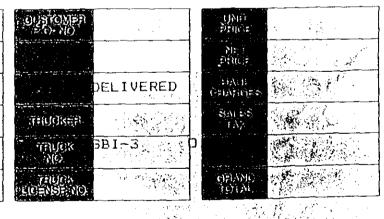
THE GOOD GUYS

12/05/95

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13:01 TIME





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ASSERTED AGGREGATE TO LIME

(614) 849-2392 ...

4620 Limestone Valley Road Zanesville, Ohio 43701

FAX (614) 849-0123

SOLD TO:

KEMRON EVIRONMENTAL SERVICES WEIGHMASTER THE GOOD GUYS

JOB NO.:

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JOB LOCATION TECHNOLOGIES ON LINDEN AVE.

DATE 12/07/95

TIME 27:27

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SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road Zanesville, Ohio 43701

FAX (614) 849-0123

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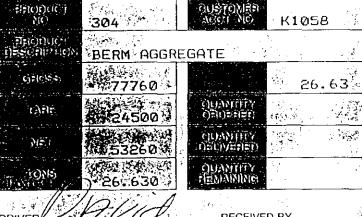
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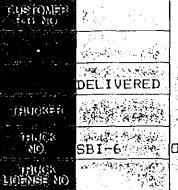
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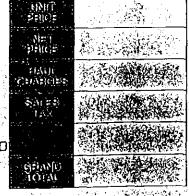
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- AVE.

TIME 08:24. DATE 12/07/95







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WEIGH MASTER

(614) 849-2392

4620 Limestone Valley Road Zancsville, Ohio 43701

FAX (614) 849-0123

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KEMRON EVIRONMENTAL SERVICES

WEIGHMASTER \_\_\_\_

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UNITED TECHNOLOGIES ON LINDEN

DATE 12/07/95

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AGGREGATE

LIME

SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road

Zanesville, Ohio 43701

FAX (614) 849-0123

242533

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KEMRON EVIRONMENTAL SERVICES

WEIGHMASTER \_\_\_\_\_

THE GOOD GUYS

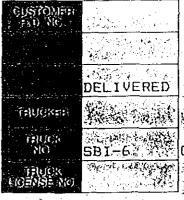
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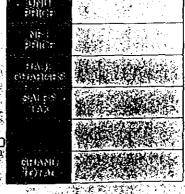
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WEIGH MASTER

(614) 849-2392

4620 Limestone Valley Road

FAX (614) 849-0123

Zanesville, Ohio 43701 SOLD TO:

WEIGHMASTER THE GOOD GUYS

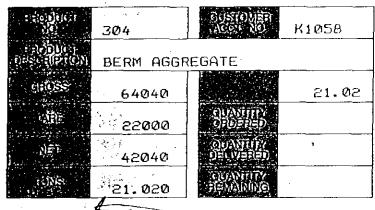
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DATE 12/07/95

TIME 29:20



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AGGREGATE - LIME

SBI

SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road Zanesville, Ohio 43701

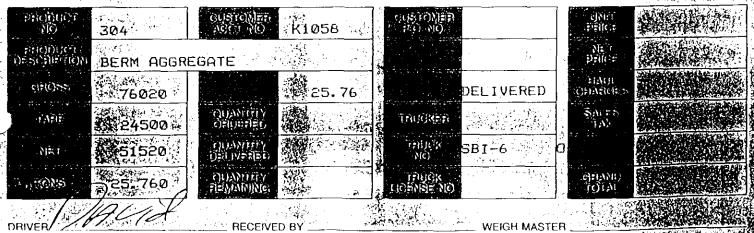
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DATE 12/07/95

TIME 10:01

KEMRON EVIRONMENTAL SERVICES WEIGHMASTER THE GOOD GUYS JOB NO.: JOB LOCATION TECHNOLOGIES ON LINDEN AVE.



(614) 849-2392

4620 Limestone Valley Road Zanesville, Ohio 43701

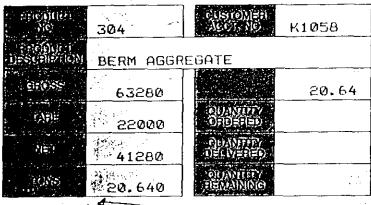
FAX (614) 849-0123

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DATE 12/07/95 TIME 10:06



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AGGREGATE - LIME

SIDWELL BROS., INC. (614) 849-2392

4620 Limestone Valley Road FAX (614) 849-0123 Zanesville, Ohio 43701

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**B**I sidwell bros., inc.

(614) 849-2392

4620 Limestone Valley Road Zanesville, Ohio 43701

FAX (614) 849-0123

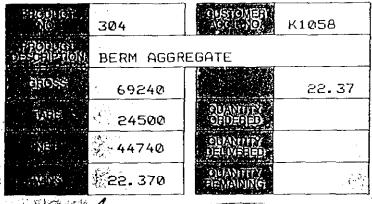
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ASPHALT - AGGREGATE - LIME

SBI SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road FAX (614) 849-0123 Zanesville, Ohio 43701

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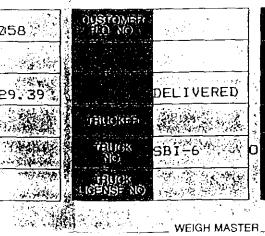
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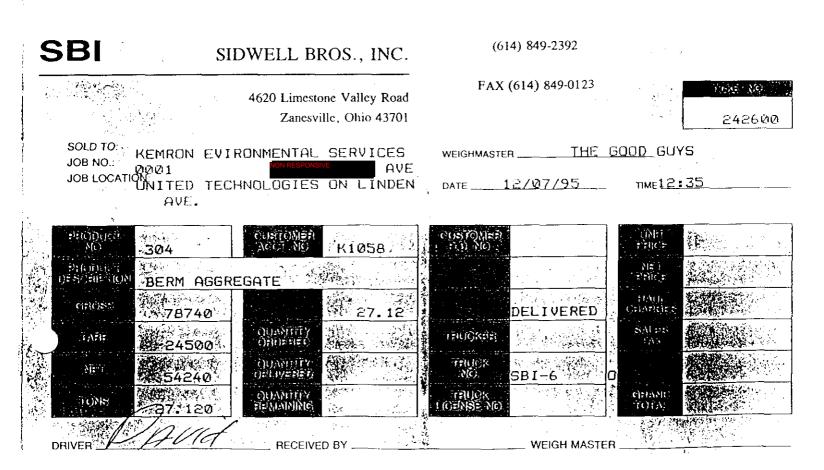
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SOLD TO: KEMRON EV	IRONMENTAL SERVICES	WEIGHMASTERTHE	<u>GOOD</u> GUYS
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WEIGHMASTER THE GOOD GUYS

#### SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road Zanesville, Ohio 43701 FAX (614) 849-0123

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KEMRON EVIRONMENTAL SERVICES

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SIDWELL BROS., INC. 34

(614) 849-2392

FAX (614) 849-0123

4620 Limestone Valley Road

Zanesville, Ohio 43701

WEIGHMASTER \_\_\_\_ THE GOOD GUYS

SOLD TO: KEMRON EVIRONMENTAL SERVICES

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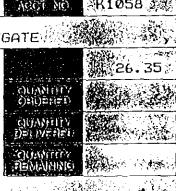
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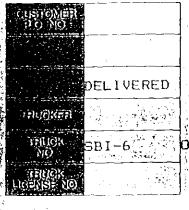
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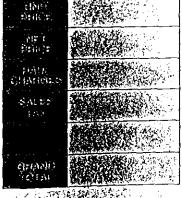
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WEIGH MASTER



(614) 849-2392 BI SIDWELL BROS., INC. FAX (614) 849-0123 4620 Limestone Valley Road Zanesville, Ohio 43701 242612 SOLD TO: KEMRON EVIRONMENTAL SERVICES WEIGHMASTER \_\_\_\_\_THE GOOD GUYS JOB NO.: JOB LOCATION TECHNOLUGIES UN LINDEN DATE 12/07/95 TIME 13:25 AVE. K1058 304 BERM AGGREGATE DELIVERED 62840 20.42 AFE 22000 SBI-1 40840 20.420 DRIVER . RECEIVED BY \_\_ \_ WEIGH MASTER \_ **DELIVERY COPY** ASPHALT -AGGREGATE - LIME (614) 849-2392 SIDWELL BROS., INC. FAX (614) 849-0123 4620 Limestone Valley Road 3. Zanesville, Ohio 43701 242628 WEIGHMASTER THE GOOD GUYS SOLD TO: KEMRON EVIRONMENTAL SERVICES JOB NO.: JOB LOCATION: DATE 12/07/95 TIME14:10 ON LINDEN AVE. BERM AGGREGATE PRODUCT 28.66 cirto): DELIVERED 81820 8 24500 ग्रह्माई<u>४६</u>हा TARE 57320 P8. 660

WEIGH MASTER

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4620 Limestone Valley Road Zanesville, Ohio 43701 (614) 849-2392

FAX (614) 849-0123

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SOLD TO: JOB NO.:

KEMRON EVIRONMENTAL SERVICES

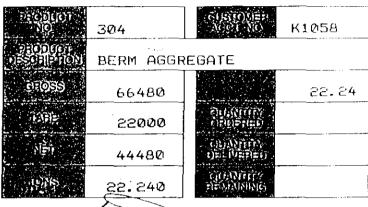
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WEIGHMASTER THE GOOD GUYS

DATE 18/07/95

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WEIGHMASTER \_\_\_\_\_\_THE GOOD GUYS

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SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road Zanesville, Ohio 43701

FAX (614) 849-0123

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KEMRON EVIRONMENTAL SERVICES JOB NO.:

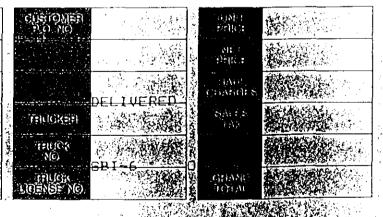
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WEIGH MASTER

(614) 849 2392 ,

FAX (614) 849-0123

Zanesville, Ohio 43701

4620 Limestone Valley Road

SOLD TO: KEMRON EVIRONMENTAL SERVICES

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THE GOOD GUYS

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\_\_\_\_ WEIGH MASTER .

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ASPHALT - AGGREGATE - LIME

SBI

SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road

Zanesville, Ohio 43701

FAX (614) 849-0123

SOLD TO:

JOB'NO .: KEMRON EVIRONM

JOB LOCATION: 1

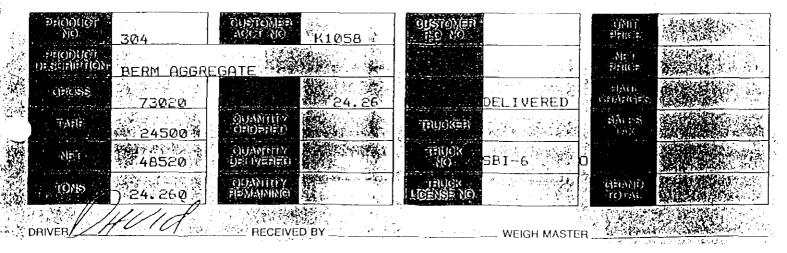
UNITED TECHNOLOGIES ON LINDEN

AVE.

WEIGHMASTER \_\_\_\_ THE GOOD GUYS WELL

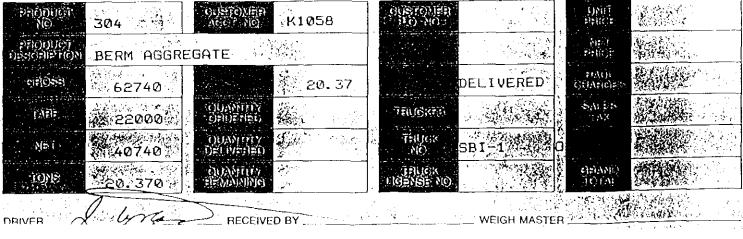
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SIDWELL BROS., INC.	(614) 849-2392	1, 1,		
4620 Limestone Valley Road Zanesville, Ohio 43701	FAX (614) 849-0123	The second second	70 E 100 242691	
SOLD TO:  JOB NO.: KEMRON EVIRUNMENTAL SERVICES  JOB LOCATION 1 NOTESFONSIVE AVE  UNITED TECHNOLOGIES ON LINDEN	WEIGHMASTERTHE G			
AVE.  PRODUCT  NO 304  PRODUCT   GUSTOVERI PER 18				
PERM AGGREGATE  GROSS 6.3520 20.76  TABLE 22000 0000000000000000000000000000000	DELIVERED FRUSKEF FRUSK FRUSK CO SBI-1	SACES		
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SBI SIDWELL BROS., INC.	(614) 849-2392			i
4620 Limestone Valley Road  Zanesville, Ohio 43701	FAX (614) 849-0123		2427Ø5	. 2
SOLD TO:  JOB NO.: KEMRON EVIRONMENTAL SERVICES  JOB LOCATION 01  UNITED TECHNOLOGIES ON LINDEN  AVE.	WEIGHMASTERTHE GE	TIME GUYS		-
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(614) 849-2392 3BI SIDWELL BROS., INC. 4620 Limestone Valley Road FAX (614) 849-0123 Zanesville, Ohio 43701 WEIGHMASTER \_\_\_\_\_THE\_GOOD\_GUYS SOLD TO: KEMRON EVIRONMENTAL SERVICES JOB NO.: DATE 12/08/95 TIME 09:24 AVE. K1058 304 BERM AGGREGATE DELIVERED 27.85 80200 24500 SB1-6 55700 £7.85Q RECEIVED BY \_ \_\_ WEIGH MASTER \_ DELIVERY COPY ASPHALT - AGGREGATE - LIME (614) 849-2392 SBI SIDWELL BROS., INC. FAX (614) 849-0123 4620 Limestone Valley Road 242726 Zanesville, Ohio 43701 THE GOOD GUYS KEMRON EVIRONM<u>ENTAL SERVI</u>CES SOLD TO: WEIGHMASTER \_\_\_\_\_ AVE Ø9:26 DATE 12/Ø8/95 JOB LOCATIONITED TECHNOLOGIES ON LINDEN AVEL.



**3BI** 

SIDWELL BROS., INC.

4620 Limestone Valley Road Zanesville, Ohio 43701

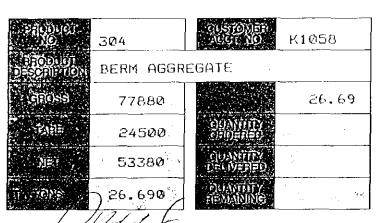
(614) 849-2392

FAX (614) 849-0123

SOLD TO: KEMRON EVIRONMENTAL SERVICES JOB NO.: JOB LOCATION TECHNOLOGIES ON LINDEN WEIGHMASTER THE GOOD GUYS

12/08/95 DATE

TIME 10:10



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WEIGH MASTER \_

**DELIVERY COPY** 

ASPHALT -

AGGREGATE LIME

SBI

SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road Zanesville, Ohio 43701

JOB NO .: KEMRON EVIRONMENTAL SERVICES

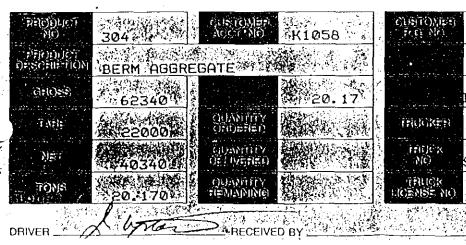
WEIGHMASTER THE GOOD GUYS

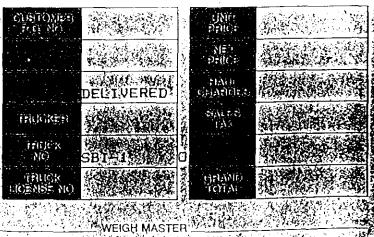
JOB LOCATION: 01

UNITED TECHNOLOGIES ON LINDEN

DATE 12/08/95

TIME 1 0: 12





(614) 849-2392 SIDWELL BROS., INC. 3BI FAX (614) 849-0123 4620 Limestone Valley Road Zanesville, Ohio 43701 WEIGHMASTER THE GOOD GUYS SOLD 10. KEMRON EVIRONMENTOL SEPUTCES > JOB NO.: AVE JOB LOCATION: DOM: AVE JOB LOCATION: UNITED TECHNOLOGIES UN LINDEN DATE 12/08/95 TIME 11:16 AVE. K1058 304 BERM AGGREGATE DELIVERED 27.14 78780 24500 SBI-6 54280 27.140 WEIGH MASTER \_ RECEIVED BY . with the **DELIVERY COPY** ASPHALT -AGGREGATE LIME (614) 849-2392 SIDWELL BROS., INC FAX (614) 849-0123 4620 Limestone Valley Road Zanesville, Ohio 43701 SOLD TO: KEMRON EVIRONMENTAL SERVICES WEIGHMASTER THE GOOD GUYS JOB NO.: JOB LOCATION TIME 11:18 DATE 12/08/95 UNITED TECHNOLOGIES ON LINDEN AVE. ±K1058 ★ 304 BERM AGGREGATE 64460 DELIVERED

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(614) 849-2392

4620 Limestone Valley Road Zanesville, Ohio 43701

FAX (614) 849-0123

SOLD TO: JOB NO.:

KEMRON EVIRONMENTAL SERVICES

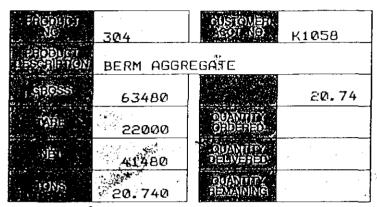
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DATE 12/08/95

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ASPHALT - AGGREGATE - LIME

SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road

Zanesville, Ohio 43701

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JOB NO. KEMRON EVIRONMENTAL SERVICES

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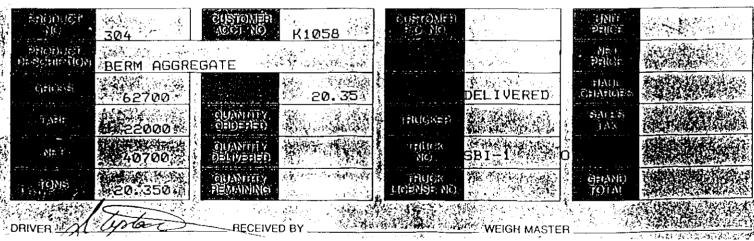
FAX (614) 849-0123

242814

WEIGHMASTER THE GOOD GUYS

DATE 12/08/95

TIME1 3:00



(614) 849-2392

DATE \_\_\_\_12/08/95 \_\_\_

4620 Limestone Valley Road Zanesville, Ohio 43701

FAX (614) 849-0123

242835

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KEMRON EVIRONMENTAL SERVICES JOB NO.:

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JOB LOCATION 01

ON LINDEN

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SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road

Zanesville, Ohio 43701

FAX (614) 849-0123

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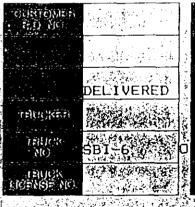
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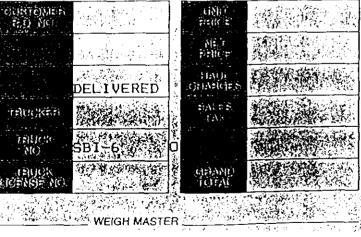
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(614) 849-2392

4620 Limestone Valley Road

Zancsville, Ohio 43701

FAX (614) 849-0123

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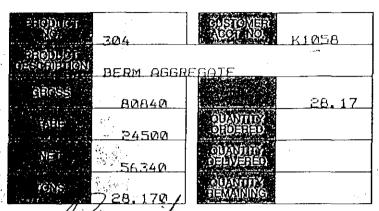
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UNITED TECHNOLOGIES ON LINDEN

WEIGHMASTER \_\_\_\_\_THE GOOD GUYS

DATE 12/03/01. TIME15:36



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\_ WEIGH MASTER \_

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AGGREGATE -

LIME

SIDWELL BROS., INC.

AVE

4620 Limestone Valley Road 16 3

Zanesville, Ohio 43701

JOB NO. KEMRON EVIRONMENTAL SERVICES

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. ... UNITED TECHNOLOGIES ON LINDEN AVE.

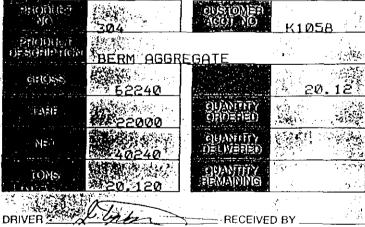
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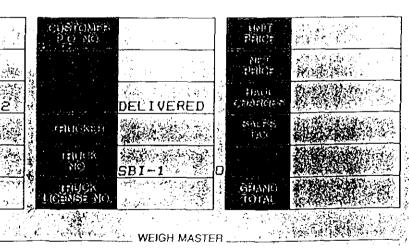
FAX (614) 849-0123

rietigen bie) 242883

WEIGHMASTER THE GOOD GUYS

DATE 12/02/95 TIME16:13





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## SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road Zanesville, Ohio 43701

ON LINDEN

FAX (614) 849-0123

242884

KEMRON EVIRONMENTAL SERVICES

WEIGHMASTER \_\_\_\_\_\_THE GOOD GUYS

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SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road

FAX (614) 849-0123

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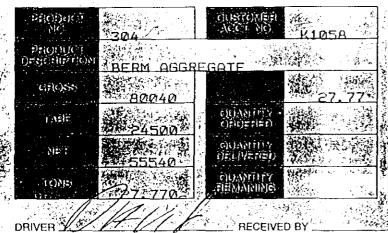
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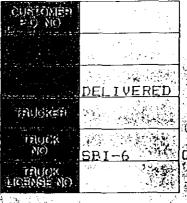
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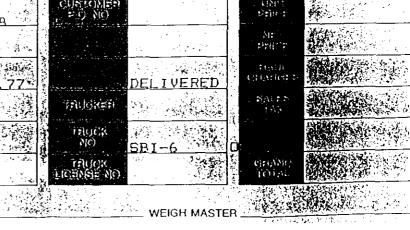
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UNITED TECHNOLOGIES ON LINDEN : DATE --- 10/00/95 AVE.

TIME@B:33







(614) 849-2392

4620 Limestone Valley Road Zancsville, Ohio 43701

FAX (614) 849-0123

242794

SOLD TO:

KEMRON EVIRON

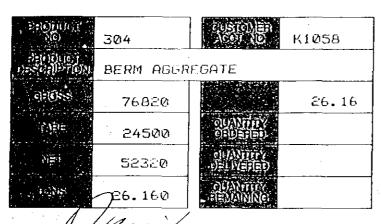
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WEIGHMASTER THE GOOD GUYS

DATE \_\_\_\_\_18/08/95\_\_\_\_

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WEIGH MASTER

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SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road

Zanesville, Ohio 43701

FAX (614) 849-0123

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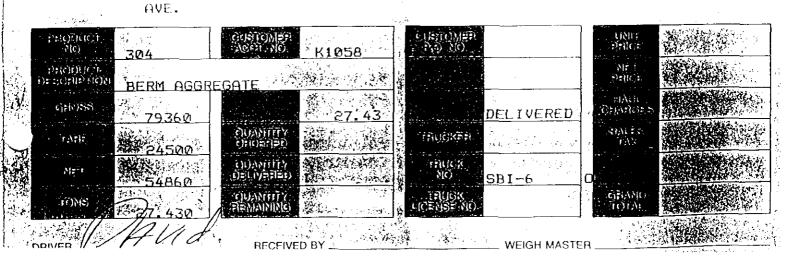
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WEIGHMASTER \_\_\_\_\_\_THE GOOD GUYS

ON LINDEN DATE 12/00/95

TIME 12:58



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4620 Limestone Valley Road Zanesville, Ohio 43701

(614) 849-2392

FAX (614) 849-0123

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KEMRON EVIRONMENTAL SERVICES JOB NO.:

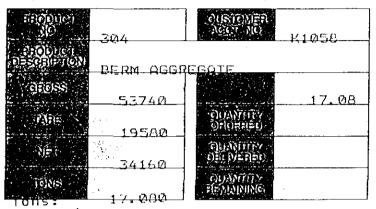
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UNITED TECHNOLOGIES ON LINDEN AVE.

WEIGHMASTER \_\_\_\_\_\_THE GOOD GUYS

DATE \_\_\_\_\_\_12/11/95

TIME 08:28



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WEIGH MASTER

#### **DELIVERY COPY**

ASPHALT - AGGREGATE

- LIME

SIDWELL BROS., INC.

4620 Limestone Valley Road

Zanesville, Ohio 43701

KEMRON EVIRONMENTAL SERVICES

SOLD TO: AVE 0001 JOB LOCATION: TECHNOLOGIES ON LINDEN

AVE.

(614) 849-2392

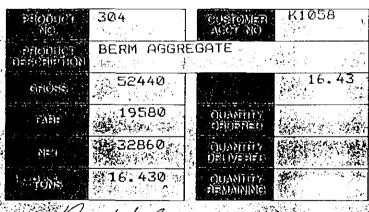
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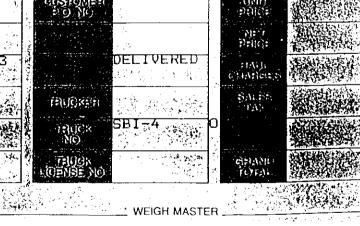
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DATE \_\_\_ TIME

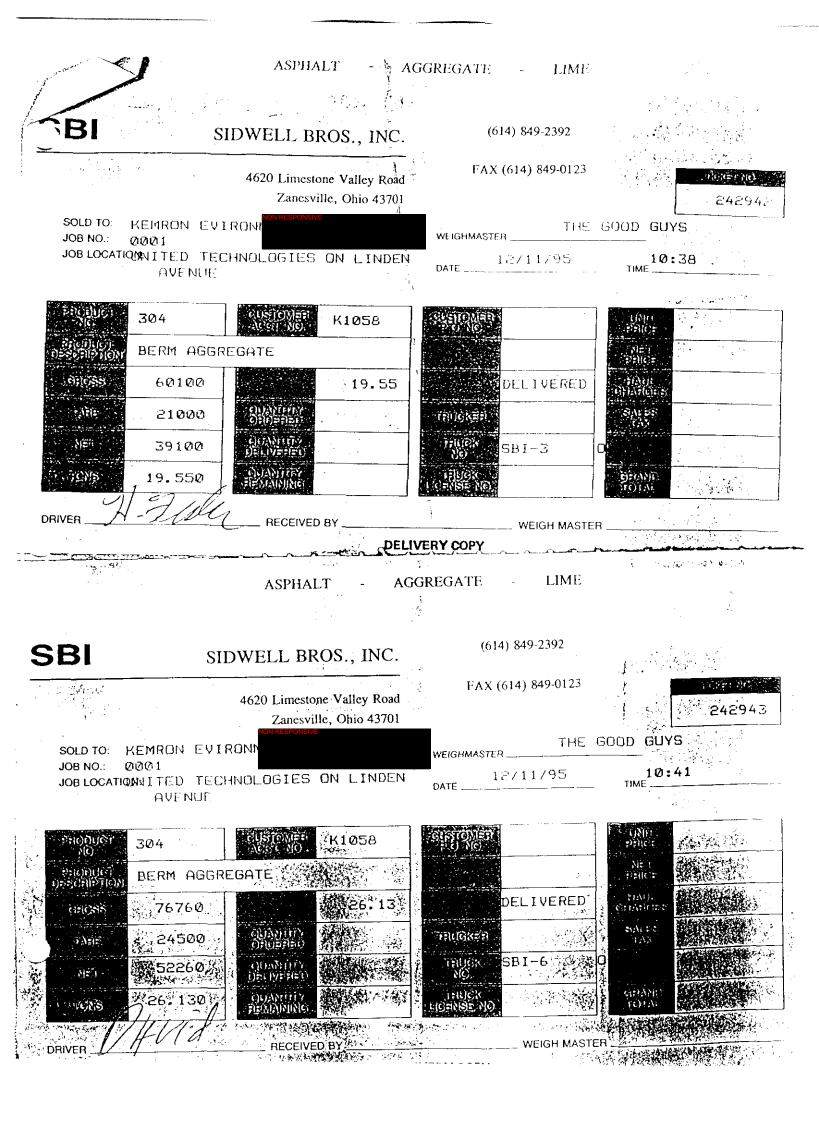
K1058







DRIVER Won Welson



(614) 849-2392 SIDWELL BROS., INC. FAX (614) 849-0123 4620 Limestone Valley Road Zanesville, Ohio 43701 KEMRON EVIRONMENTAL SERVICES SOLD TO: THE GOOD GUYS WEIGHMASTER \_\_\_ AVE. JOB NO.: 0001 JOB LOCATIONNITED TECHNOLOGIES ON LINDEN 12/11/95 11:18 AVENUE TOPSOIL K1058 TOPSOIL GOOD BLACK LOAM DELIVERED 52060 16.24 19580 SBI-4 32480 16.240 \_ RECEIVED BY \_\_ WEIGH MASTER DELIVERY COPY AGGREGATE LIME ASPHALT . (614) 849-2392 SIDWELL BROS., INC. FAX (614) 849-0123 4620 Limestone Valley Road Zanesville, Ohio 43701 SOLD TO: KEMRON EVIRONMENTAL (SERVICES THE GOOD GUYS WEIGHMASTER. JOB NO.: 0001 12:46 JOB LOCATION ITED TECHNOLOGIES AVENUE 304 BERM AGGREGAT DELIVERED ele(eleas) S: 59280 . 22000

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## SIDWELL BROS., INC.

4620 Limestone Valley Road

(614) 849-2392 (57) · · · ·

FAX (614) 849-0123

Zanesville, Ohio 43701 SOLD TO: KEMRON EVIRONMENTAL SERVICES

WEIGHMASTER ....

THE GOOD GUYS

JOB NO.:

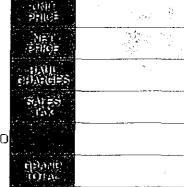
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PRODUCT DESCRIPTION	BERM AGGF	REGATE	
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DRIVER Welson RECEIVED BY

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#### **DELIVERY COPY**

DEC-13-95 WED 8:58

ASPHALT - AGGREGATE - LIME

SBI

SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road

Zanesville, Ohio 43701

FAX (614) 849-0123

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SOLD TO: KEMRON EVIRONMENTAL SERVICES
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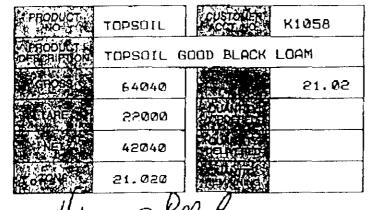
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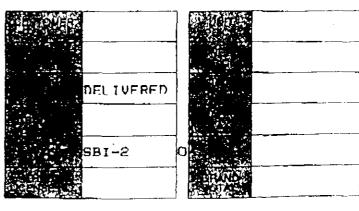
AVENUE

THE GOOD BUYS WEIGHMASTER \_\_\_\_

DATE 12/11/95

TIME 13:45





\_\_\_\_ WEIGH MASTER \_

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SIDWELL BROS., INC.

(614) 849-2392

4620 Limestone Valley Road Zancsville, Ohio 43701

FAX (614) 849-0123

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SOLD TO: KEMRON EVIRONMENTAL SERVICES JOB NO.: 0001 JOB LOCATIONITED TECHNOLOGIES ON LINDEN

AVENUE

12/11/95 DATE \_\_

WEIGHMASTER \_\_\_\_

10:09

THE GOOD GUYS

HEMÓTBUD ACCT, NO. PRODUCT. NO. ₩1 304 K1058 BERM AGGREGATE 65080 21.54 BANTITY ROEREDS 22000 43080 21.540

DELIVERED

OFFICE COPY

**ASFIIALT** 

-RECEIVED BY

AGGREGATE

- LIME

\_ WEIGH MASTER \_

SBI

SIDWELL BROS., INC.

-RECEIVED BY ...

(614) 849-2392

4620 Limestone Valley Road Zancsville, Ohio 43701

FAX (614) 849-0123

**经验的** 242912

SOLD TO:

JOB NO.: KEMRON EVIRONM<u>ENTAL SERVI</u>CES JOB LOCATI®®Ø1 AVE

UNITED TECHNOLOGIES ON LINDEN AVE.

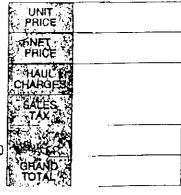
WEIGHMASTER THE GOOD GUYS DATE - 12/11/95

™®**3.4 ₽Ø** 

PRODUCT NO. CUSTOMER ACCT, NO. K1058 PRODUCT BERM AGGREGATE GROSS 65300 TARE **COUNNTITY** ORDERED'S **22000** OUANTITY -43300 OUANTITY REMAINING

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\_ WEIGH MASTER \_



OFFICE COPY

### APPENDIX E

### EL CORP PRELIMINARY LABORATORY RESULTS



Zanesville, Ohio 43701

DATE SAMPLED: 10/31/95

**REPORT DATE:** 11/01/95

SOURCE: B-7 Floor

LAB ID# 045-5587

SAMPLED BY: C. Skiera / Secor

### RESULTS

PARAMETER

CONCENTRATION

ANALYST

DATE ANALYZED

Manganese

633.4 mg/Kg

DEC

11/01/95

Released By

D.E. Copen Analyst



CLIENT: UTA Auto
NON RESPONSIVE
Avenue
Zanesville, Ohio 43701

DATE SAMPLED: 10/31/95

**REPORT DATE:** 11/01/95

**SOURCE:** B-7 SW-Comp

LAB ID# 045-5589

SAMPLED BY: C. Skiera / Secor

### RESULTS

PARAMETER

CONCENTRATION

ANALYST

DATE ANALYZED

Manganese

485.5 mg/Kg

DEC

11/01/95

Released By

D.E. Copen Analyst



CLIENT: UTA Auto
NON RESPONSIVE
Avenue
Zanesville, Ohio 43701

DATE SAMPLED: 10/31/95

**REPORT DATE:** 11/01/95

**SOURCE:** B-6 Floor

LAB ID# 045-5588

SAMPLED BY: C. Skiera / Secor

### RESULTS

PARAMETER

CONCENTRATION

ANALYST

DATE ANALYZED

Lead

< 17.0 mg/Kg

DEC

11/01/95

Released By,

D.E. Copen Analyst



Avenue Zanesville, Ohio 43701

**DATE SAMPLED:** 10/31/95

**REPORT DATE:** 11/01/95

**SOURCE:** B-6 SW-Comp

LAB ID# 045-5586

SAMPLED BY: C. Skiera / Secor

### RESULTS

PARAMETER

CONCENTRATION

<u>ANALYST</u>

DATE ANALYZED

Lead

204.1 mg/Kg

DEC

11/01/95

Released By,

D.E. Co<del>pen</del> Analyst



Avenue Zanesville, Ohio 43701

**DATE SAMPLED:** 10/31/95

**REPORT DATE:** 11/01/95

**SOURCE:** B-4 Comp

LAB ID# 045-5580

SAMPLED BY: C. Skiera / Secor

### RESULTS

PARAMETER

CONCENTRATION

ANALYST

DATE ANALYZED

Manganese

435.5 mg/Kg

DEC

11/01/95

Released By,

D.E. Copen Analyst



CLIENT: UTA Auto
NON RESPONSIVE
Avenue
Zanesville, Ohio 43701

DATE SAMPLED: 10/31/95

**REPORT DATE:** 11/01/95

SOURCE: B-4 Floor

LAB ID# 045-5581

SAMPLED BY: C. Skiera / Secor

### RESULTS

PARAMETER

CONCENTRATION

ANALYST

DATE ANALYZED

Manganese

312.9 mg/Kg

DEC

11/01/95

Released By

D.E. Copen Analyst



CLIENT: UTA Auto
NONRESPONSIVE
Avenue
Zanesville, Ohio 43701

**DATE SAMPLED:** 10/31/95

**REPORT DATE:** 11/02/95

SOURCE: B-13 Floor

LAB ID# 045-5601

SAMPLED BY: C. Skiera / Secor

### RESULTS

PARAMETER

CONCENTRATION

ANALYST

DATE ANALYZED

Lead

9.29 mg/Kg

DEC

11/02/95

Released B

D.E. Cope Analyst



Avenue Zanesville, Ohio 43701

**DATE SAMPLED: 11/01/95** 

**REPORT DATE:** 11/02/95

**SOURCE:** B-13 SW Comp

LAB ID# 045-5604

SAMPLED BY: C. Skiera / Secor

### RESULTS

PARAMETER

CONCENTRATION

ANALYST

DATE ANALYZED

Lead

274.8 mg/Kg

DEC

11/02/95

Released By,

D.E. Copen Analyst



CLIENT: UTA Auto
NON RESPONSIVE
Avenue
Zanesville, Ohio 43701

DATE SAMPLED: 11/01/95

**REPORT DATE: 11/02/95** 

SOURCE: B-17 SW Comp

LAB ID# 045-5606

SAMPLED BY: C. Skiera / Secor

### RESULTS

 PARAMETER
 CONCENTRATION
 ANALYST
 DATE ANALYZED

 Zinc
 49.8 mg/Kg
 DEC
 11/02/95

Released By

D.E. Copen Analyst



CLIENT: UTA Auto
NON RESPONSIVE
Avenue
Zanesville, Ohio 43701

**DATE SAMPLED: 11/01/95** 

**REPORT DATE:** 11/02/95

SOURCE: B-17 Floor

LAB ID# 045-5607

SAMPLED BY: C. Skiera / Secor

### RESULTS

 PARAMETER
 CONCENTRATION
 ANALYST
 DATE ANALYZED

 Zinc
 39.0 mg/Kg
 DEC
 11/02/95

Released By

D.E. Copen Analyst



Avenue Zanesville, Ohio 43701

DATE SAMPLED: 11/01/95

**REPORT DATE:** 11/02/95

**SOURCE:** B-19 Floor

T. M. Quinn QA/QC Officer

LAB ID# 045-5608

SAMPLED BY: C. Skiera / Secor

### RESULTS

 PARAMETER
 CONCENTRATION
 ANALYST
 DATE ANALYZED

 Lead
 214.6 mg/Kg
 DEC
 11/02/95

Released/By

Q.E/Coper Analyst



Avenue Zanesville, Ohio 43701

DATE SAMPLED: 11/01/95

**REPORT DATE:** 11/02/95

SOURCE: B-19 SW Comp

LAB ID# 045-5602

SAMPLED BY: C. Skiera / Secor

### RESULTS

 PARAMETER
 CONCENTRATION
 ANALYST
 DATE ANALYZED

 Lead
 1311.0 mg/Kg
 DEC
 11/02/95

Released By

D.E. Copen



Zanesville, Ohio 43701

Avenue

DATE SAMPLED: 11/01/95

**REPORT DATE:** 11/02/95

SOURCE: B-18 SW Comp

LAB ID# 045-5605

SAMPLED BY: C. Skiera / Secor

### RESULTS

PARAMETER

CONCENTRATION

<u>ANALYST</u>

DATE ANALYZED

Lead

471.5 mg/Kg

DEC

11/02/95

Released By,



Avenue
Zanesville, Ohio 43701

**DATE SAMPLED:** 11/01/95

**REPORT DATE:** 11/02/95

SOURCE: B-18 Floor

LAB ID# 045-5603

SAMPLED BY: C. Skiera / Secor

### RESULTS

 PARAMETER
 CONCENTRATION
 ANALYST
 DATE ANALYZED

 Lead
 503.4 mg/Kg
 DEC
 11/02/95

Released By,

D.E. Cope Analyst

														Cha	ain-of (	Custo	ody Number:	
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BIR-FLOOR	17.20					_		<u> </u>										+
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Date: 11 11 195 Page 1 of 1

### APPENDIX F

### VALIDATED QUANTERRA LABORATORY RESULTS

February 23, 1996

Brent Douglas SECOR International Incorporated 27280 Haggerty Road, Suite C-11 Farmington, MI 48331-3433

Dear Brent,

Enclosed please find the revised data validation report associated with the soil excavation samples collected at the Zanesville Well Field Site. As per your request the review of samples B-18 Floor E and B-18 SW Comp E has been performed. These samples did not require qualification. Please note the manual edits by this validator of the sample identification based on your correspondence received 2/20/96.

Please replace the data validation report with the complete data validation report enclosed herein.

If there are any further questions, please do not hesitate to contact me at (516)223-9761.

Sincerely,

Renee G. Cohen

### **REVISED**

DATA VALIDATION SUMMARY

OF THE

ZANESVILLE WELL FIELD SITE

SOIL EXCAVATION SAMPLING EVENT

QUANTERRA ENVIRONMENTAL SERVICES LABORATORY PROJECT NUMBERS

A5K010158, A5K020120 A5K040123, A5K080165 A5K140104, A5L080114

February 23, 1996

Prepared for SECOR International Incorporated

Prepared by
Premier Environmental Services
2815 Covered Bridge Road
Merrick, New York 11566
(516)223-9761

### TABLE OF CONTENTS

	Page
OVERVIEW	1
DATA COMPLETENESS	2
HOLDING TIMES	2
CALIBRATION	3
BLANKS	3
COMPOUND IDENTIFICATION AND QUANTITATION	3
MATRIX SPIKE	3
CONCLUSIONS	4

### **TABLES**

Table 1. Field Sample Identification - Laboratory Sample Identification

### **APPENDICES**

- A. Data Qualifier Definitions
- **B.** Laboratory Sample Results
- C. Chain of Custody Documentation
- D. Correspondence

# DATA VALIDATION SUMMARY OF THE UNITED TECHNOLOGIES AUTOMOTIVE, INC. ZANESVILLE SOIL EXCAVATION ANALYSES

#### **OVERVIEW**

This report represents the inorganic data validation summary for samples collected at the Zanesville Soil Excavation Sampling event. Samples were collected October 31, 1995, November 1, 3, 8, 1995 and December 7, 1995.

A total of thirty two (32) soil samples were collected and sent to Quanterra Environmental Services (formerly Enseco/Wadsworth Alert Laboratories) located in North Canton, Ohio for the analysis of specific metals in accordance with the methodology contained in the EPA Test Methods for the Evaluation of Solid Waste, Method 6010A. Seventeen (17) samples required validation based on the concentration of the metals detected in these samples. The action level to validate was Lead: less than 400 mg/kg, Manganese: less than 1200 mg/kg and Zinc less than 23000 mg/kg.

The laboratory project numbers associated with samples that required data validation are (A5K080165, A5K020120, A5K040123, A5K010158 and A5L080114).

This project required DQO Level III reporting. The data report consisted of target analyte results and a QC summary report. The raw instrument data was not provided for review with these data packages. The validation process consisted of a review of the data following the acceptance criteria of the Functional Guidelines for Evaluating Inorganic Data (July 1993, revised February 1994).

Analytical data were evaluated based on the following:

- data completeness
- holding times
- blanks
- matrix spikes (Batch QC)
- QC check standards
- compound identification and quantitation

Page 2.

The qualifier definitions that may be used in this report are listed in Appendix A. Appendix B contains the final data results submitted by the laboratory that required data validation. Appendix C of the report contains a copies of the Chain of Custody documentation submitted for all samples to the laboratory. Appendix D contains the correspondence between this data validator and SECOR International, Inc.

A cross reference between the field sample identification and the laboratory sample identification of samples validated is located in Table I of this report.

### **DATA COMPLETENESS**

All sample analyses were performed as required by the Chain of Custody (COC) documentation that accompanied each of the sample delivery. The samples that were validated did not require any qualifiers.

SECOR indicated which samples were to be validated in correspondence dated December 8,1996. On February 20, 1996, SECOR indicated that validation was requried on samples B-18 SW Comp E and B-18 Floor E. The COC that accompanied this validation report was provided in Appendix C, however, the initial COC used the suffix D for each of these samples. The Feruary 20, 1996 stated that the sample ID had changed (using the suffix E). The data report submitted by the laboratory reported all data using the suffix D. Please note that the report result pages and sample identification table have been edited by this validator.

### **HOLDING TIMES**

The technical holding time for preparation and analysis of these soil samples was met.

Page 3.

#### CALIBRATION

Raw instrument calibration data was not supplied with the inorganic data associated with these sample analyses. The laboratory provided a summary of the QC check standard data associated with the sample batches for review.

The QC Check standards associated with the inorganic analyses met all QC criteria.

#### **BLANK CONTAMINATION**

The preparation blanks associated with these sample analyses were free from contamination.

### **MATRIX SPIKE**

Site specific QC was not requested with these soil sample analyses. The laboratory provided Batch QC summaries with each project. All Batch QC met laboratory control limits.

### **COMPOUND IDENTIFICATION AND QUANTIFICATION**

The laboratory provided the final data result page for each sample analysis. This result page reported the target analyte, the concentration if detected and the units.

Page 4.

### CONCLUSIONS

All samples were analyzed in accordance with the Chain of Custody that accompanied the samples to the laboratory for analysis.

The soil samples that required data validation did not require qualification.

TABLE 1





WO_#	LABORATORY ID	SAMPLE IDENTIFICATION	DATE/TIME	SAMPLET
C1P2A	A5K010158-001	B-4 FLOOR	10/31/95	10:40
C1P2H	A5K010158-002	B-4 SW COMP	10/31/95	10:50
C1P2J	A5K010158-003	B-6 FLOOR	10/31/95	
C1P2L	A5K010158-004	B-6 SW-COMP	10/31/95	
C1P2N	A5K010158-005	B-7 FLOOR	10/31/95	
C1P2P	A5K010158-006	B-7 SW COMP	10/31/95	

### SAMPLE SUMMARY



<u>₩0                                    </u>	LABORATORY ID	SAMPLE IDENTIFICATION	DATE/TIME	SAMPLED
C1PE3	A5K020120-001	B13-FLOOR	10/31/95	18:00
C1PE6	A5K020120-002	B13-SW-COMP	11/01/95	8:00
C1PE8	A5K020120-003	B17-FLOOR	11/01/95	10:15
C1PE9	A5K020120-004	B17-SW-COMP	11/01/95	10:30
CIPEA	A5K020120-005	B19-FLOOR	11/01/95	11:45
ClPEG	A5K020120-009	B2-FLOOR	11/01/95	17:20
ClPEH	A5K020120-010	B2-SW-COMP	11/01/95	17:35





<u>WO #</u>	LABORATORY ID	SAMPLE IDENTIFICATION	DATE/TIME	SAMPLED
C1QV3	A5K040123-001	B18-FLOOR-B	11/03/95	9:40
C1QV7	A5K040123-002	B18-SW-COMP-B	11/03/95	8:40
ClQV8	A5K040123-003	B19-SW-COMP-B	11/03/95	8:50
C1QV9	A5K040123-004	B2-SW-COMP-B	11/03/95	12:25
C1QVA	A5K040123-005	B2-FLOOR-B	11/03/95	12:45



### SAMPLE SUMMARY

WO #	LABORATORY ID	SAMPLE IDENTIFICATION	DATE/TIME	SAMPLED
C1T9Q C1T9T			11/08/95 11/08/95 11/08/95 11/08/95	14:00 14:20



### **SAMPLE SUMMARY**

WO #	LABORATORY ID	SAMPLE IDENTIFICATION		DATE/TIME	SAMPLED
C28F8	A5L080114-001	B-18 SW COMP. DE	RC 2/25/96	12/07/95	12:30
C28FL	A5L080114-002	B-18 FLOOR P E		12/07/95	12:15

### **APPENDIX A**

### DATA QUALIFIER DEFINITIONS

- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- NJ The analysis indicates the presence of an analyte that has been "tentatively identiifed" and the associated numerical value represents its approximate concentration.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

**APPENDIX B** 



SECOR

B-4 FLOOR

WO #: C1P2A

LAB #: A5K010158-001

MATRIX: SOLID

DATE SAMPLED: 10/31/95 TIME SAMPLED: 10:40

10:40

DATE RECEIVED: 11/01/95

MOISTURE:

13.8

PREPARATION - QC REPORTING LIMIT UNIT METHOD ANALYSIS DATE BATCH PARAMETER RESULT SW846 6010A 11/02/95 356 1.2 mg/kg 5305195 Manganese

NOTE: DRY WEIGHT



SECOR

B-4 SW COMP

WO #: C1P2H

LAB #: A5K010158-002

MATRIX: SOLID

DATE SAMPLED: 10/31/95 TIME SAMPLED: 10:50

10:50

DATE RECEIVED: 11/01/95

MOISTURE:

PREPARATION - QC REPORTING RESULT LIMIT UNIT METHOD ANALYSIS DATE BATCH <u>PARAMETER</u> 1.2 mg/kg SW846 6010A 11/02/95 Manganese 383 5305195

NOTE DRY WEIGHT



SECOR

B-6 FLOOR

WO #: C1P2J

LAB #: A5K010158-003

MATRIX: SOLID

DATE SAMPLED: 10/31/95 TIME SAMPLED:

DATE RECEIVED: 11/01/95

\* MOISTURE:

13.7

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC <u>BATCH</u>
Lead	ОМ	11.6	mg/kg	SW846 6010A	11/02/95	5305195

NOTE: DRY WEIGHT

ND NOT DETECTED AT THE STATED REPORTING LIMIT



# B-6 SW-COMP

WO #: C1P2L

LAB #: A5K010158-004

MATRIX: SOLID

DATE SAMPLED: 10/31/95

TIME SAMPLED:

DATE RECEIVED: 11/01/95

MOISTURE:

19.8

PREPARATION - QC REPORTING ANALYSIS DATE BATCH LIMIT UNIT METHOD PARAMETER RESULT 12.5 SW846 6010A 11/02/95 mg/kg 5305195 338 Lead



B-7 FLOOR

WO #: C1P2N LAB #: A5K010158-005 MATRIX: SOLID

DATE SAMPLED: 10/31/95 TIME SAMPLED:

DATE RECEIVED: 11/01/95

MOISTURE:

12.7

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC <u>BATCH</u>
Manganese	681	1.1	mg/kg	SW846 6010A	11/02/95	5305195



B-7 SW COMP

WO #: C1P2P

LAB #: A5K010158-006

MATRIX: SOLID

DATE SAMPLED: 10/31/95

TIME SAMPLED:

DATE RECEIVED:

11/01/95

MOISTURE:

17.0

REPORTING PREPARATION - QC <u>LIMIT</u> <u>UNIT</u> METHOD PARAMETER RESULT ANALYSIS DATE BATCH 526 1.2 mg/kg SW846 6010A 11/02/95 5305195 Manganese



B2-SW-COMP-B

WO #: C1QV9 LAB #: A5K040123-004

MATRIX: SOLID

DATE SAMPLED: 11/03/95
TIME SAMPLED: 12:25
DATE RECEIVED: 11/04/95

MOISTURE:

25.0

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC <u>BATCH</u>
Manganese	408	1.3	mg/kg	SW846 6010A	11/06/95	5310122



# B2-FLOOR-B

WO #: C1QVA LAB #: A5K040123-005

MATRIX: SOLID

DATE SAMPLED: 11/03/95 TIME SAMPLED: 12:45

DATE RECEIVED: 11/04/95

MOISTURE:

10.6

PREPARATION - QC REPORTING ANALYSIS DATE BATCH LIMIT UNIT METHOD PARAMETER RESULT mg/kg SW846 6010A 11/06/95 5310122 441 1.1 Manganese



B-18 FLOOR C

WO #: C1T9N LAB #: A5K080165-001

MATRIX: SOLID

DATE SAMPLED: 11/08/95
TIME SAMPLED: 13:20
DATE RECEIVED: 11/08/95

MOISTURE: 3.8

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC <u>BATCH</u>
Lead	ND	10.4	mg/kg	SW846 6010A	11/09/95	5312228

NOTE: DRY WEIGHT

ND NOT DETECTED AT THE STATED REPORTING LIMIT



B-19 SW COMP C

WO #: C1T9T

LAB #: A5K080165-003

MATRIX: SOLID

DATE SAMPLED:

11/08/95

TIME SAMPLED:

14:20

DATE RECEIVED:

11/08/95

MOISTURE:

10.5

REPORTING PREPARATION - QC PARAMETER RESULT METHOD LIMIT UNIT ANALYSIS DATE BATCH Lead 63.1 11.2 mg/kg SW846 6010A 11/09/95 531222



# B13-FLOOR

WO #: C1PE3 LAB #: A5K020120-001

MATRIX: SOLID

DATE SAMPLED: 10/31/95
TIME SAMPLED: 18:00
DATE RECEIVED: 11/02/95

MOISTURE: 7.3

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC <u>BATCH</u>
Lead	12.8	10.8	ma/ka	SW846 6010A	11/02/95	5306155



B13-SW-COMP

WO #: C1PE6

LAB #: A5K020120-002

MATRIX: SOLID

DATE SAMPLED: 11/01/95
TIME SAMPLED: 8:00
DATE RECEIVED: 11/02/95

MOISTURE:

13.0

REPORTING PREPARATION - QC LIMIT UNIT METHOD ANALYSIS DATE BATCH PARAMETER RESULT 11.5 mg/kg Lead 30.1 SW846 6010A 11/02/95 5306155



B17-FLOOR

WO #: C1PE8

LAB #: A5K020120-003

MATRIX: SOLID

DATE SAMPLED: 11/01/95 TIME SAMPLED: 10:15

10:15 DATE RECEIVED: 11/02/95

MOISTURE:

12.5

PREPARATION - QC REPORTING LIMIT UNIT METHOD ANALYSIS DATE BATCH PARAMETER RESULT SW846 6010A 11/02/95 5306155 Zinc 45.1 5.7 mg/kg



B17-SW-COMP

WO #: C1PE9

LAB #: A5K020120-004

MATRIX: SOLID

DATE SAMPLED: 11/01/95
TIME SAMPLED: 10:30
DATE RECEIVED: 11/02/95

NOISTURE:

14.2

REPORTING PREPARATION - QC LIMIT UNIT METHOD PARAMETER RESULT ANALYSIS DATE BATCH

Zinc

5.8

mg/kg

56.3

SW846 6010A 11/02/95

5306155



# B19-FLOOR

WO #: CIPEA

PARAMETER

LAB #: A5K020120-005

MATRIX: SOLID

DATE SAMPLED: 11/01/95
TIME SAMPLED: 11:45
DATE RECEIVED: 11/02/95

MOISTURE:

10.5

REPORTING PREPARATION - QC ANALYSIS DATE BATCH LIMIT UNIT METHOD

RESULT

11.2

SW846 6010A 11/02/95

Lead

18.0

mg/kg

5306155



B-18 SW COMP. # E Rc 2/13/44

WO #: C28F8

LAB #: A5L080114-001

MATRIX: SOLID

DATE SAMPLED: 12/07/95 TIME SAMPLED: 12:30

12:30 DATE RECEIVED: 12/08/95

MOISTURE:

15.0

REPORTING

LIMIT UNIT

METHOD

PREPARATION -QC

ANALYSIS DATE BATCH

Lead

PARAMETER

400

RESULT

11.8 mg/kg SW846 6010A 12/08-12/10/95 5342156



B-18 FLOOR # E

RC 2/23/96

LAB #: A5L080114-002

16.3

MATRIX: SOLID

WO #: C28FL

Lead

DATE SAMPLED: 12/07/95
TIME SAMPLED: 12:15
DATE RECEIVED: 12/08/95

% MOISTURE: 7.4

PREPARATION - QC REPORTING LIMIT UNIT METHOD ANALYSIS DATE BATCH PARAMETER RESULT 10.8 mg/kg SW846 6010A 12/08/95 5342156

# Premier Environmental Services, Inc.

# **APPENDIX C**

2815 COVERED BRIDGE ROAD, MERRICK, NEW YORK 11566 (516) 223-9761 • FAX (516) 223-0983 • NEW JERSEY (908) 750-8783

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Project # B0135-001-01 Task # Project Manager S: ANDRW 5 Laboratory QVANTEREA Turnaround Time 24 HR		WTPH-G ed)/8020	G)	VTPH 418.1	atiles	inics C/MS)	Volatiles	Organics C/MS)	CBs		tant		0109				Containers
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B-4 FLOOR 19/51 10:40 SOIL													X		HOL	D UNTIL	7
B-4 SW COMP 10/31 10:50 SOIL													X		VER	BAL IFIKMATION	1
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Chain-of Custody Number: SECOR Chain-of Custody Record Additional documents are attached, and are a part of this Record. LANSING Field Office: ..... Address: 2205 JOLLY RD SUITE A Job Name: UTA ZANESVILLE OKEMOS. MI 48864 Location: ZANESVILLE, OH Analysis Request Project # 130135-001-01 Task #\_\_\_ Project Manager S. ANDRIWS Laboratory QUANTERRA Turnaround Time 24 H/C Comments/ Sample ID Instructions Date Time Matrix SOIL HOLD UNTIL BG-FLOOK VERBAL BG-SW-COMP CONFIRMATION B7-FLOOK B7-SW COMP Relinquished by/
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SECOR CUSTREC Rev 1/85

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# Premier Environmental Services, Inc.

# APPENDIX D

2815 COVERED BRIDGE ROAD, MERRICK, NEW YORK 11566 (516) 223-9761 • FAX (516) 223-0983 • NEW JERSEY (908) 750-8783

# SECOR 355 Union Boulevard, Suite 200 Lakewood, Colorado 80228-1500

Phone (303) 763-8800

FAX (303) 763-8844

THE INFORMATION CONTAINED IN THIS COMMUNICATION IS CONFIDENTIAL, MAY BE ATTORNEY-CLIENT PRIVILEGED. MAY CONSTITUTE DISIDE INFORMATION AND IS INTENDED FOR THE USE OF THE ADDRESSEE. UNAUTHORIZED USE, DISCLOSURE OR COPYING IS STRICTLY PROHIBITED AND MAY BE UNLAWFUL. IF YOU HAVE RECEIVED THIS COMMUNICATION IN ERROR, PLEASE IMMEDIATELY NOTIFY US AT (303)763-6390.

To: Rence Cohen	From: Linda Spry O'Rourke
Company: Primier	Date: 12/16/95 12/8/95
	Time: 130 17:00
,	Job No: B0135-001-62
64 222 - 222	
FAX No: 516-223-0983	Pages (Including Cover):
Phone No: 516-223-9761	Verified With:By:
Comments: Rence the following Zanesville.	soil sandes are to be validated:
7-B-4 Floor X XB2-SW-COMP-1	<b>.</b>
B-4 SW COMPX >B2-FlOOR-B	Y X B19-F100R X
- 86 Floor × / B.18 Floo2-C	
+B6 SW COMP X XB13-FIOOR	Y
LBT Flur X XB13-5W-COM	
1B7 SW COMP X XBIT-FIOOR	X
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The criteria to have une validate data	is that lead results must be <400 mg/kg,
	, and zine results must be < 2
a la sample . I district above they not be	us assuft, below these liveds don't validate
it and please call. Thanks I	we results below these levels, don't validate
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Date: December 14, 1995

To: Linda Spry O'Rourke - SECOR

From: Renee Cohen - Premier Environmental Services

Re: Zanesville Soil Excavation Samples

The following is a summary after a quick review of the data that Quanterra provided for event:

Result Page, Holding Time Information, QC Check Sample Summary, MS/MSD Report (Batch QC) and the Chain of Custody. These are the items that will be reviewed. Raw data was not provided, therefore, the reported data cannot be verified and confirmed. Calibration and instrument reading verification will not be performed.

// va

Based on your 12/8/95 FAX Sample B2-SW-Comp (A5K020120) did not require validation, however, the lead value was less than 400 mg/kg. The Manganese concentration was greater than 1200 mg/kg. Please confirm if this is correct.

Tom did not provide a result page in the report for sample B-19 SW South C (A5K0801 004). I will request this and include it in my copy of the report.

Brent called the Zinc cleanup level is 23000 mg/kg.

each ( 5W-Comp

# PREMIER PRINTING AND NOVELTIES COMPANY 2815 COVERED BRIDGE ROAD MERRICK, NEW YORK 11566 (516)223-9761 (516)223-0983

Date: February 11, 1996

To: Tom Himes - Project Manager (x 785)

From: Renee Cohen

I have completed the review of the Zanesville Soil samples and noticed that the result page for sample B-19 SW South C (A5K080165-004) was not included in the submission for review. Can you please provide (FAX) a copy of this result page.

The COC indicated that this sample was not be analyzed until further notice. Linda stated that this sample was to be analyzed.

Thank You

intermich (x 787) to sond aamy

# **FAX TRANSMITTAL**

# SECOR INTERNATIONAL INCORPORATED

27280 HAGGERTY ROAD, SUITE C-1 |
FARMINGTON HILLS, MICHIGAN 48331-3433
PHONE: (810) 489-5900
FAX: (810) 489-1088

To: RENEE		BRENT
	Date:	2/20/96
Phone No.	Time:	
Fax No. 517 223 . 0983	Pages:	V (Including Cover)
Re: Sie Excountron Dorn Walidation		
Comments: ATTACHEO REASE  2 Additional Serples	FWD	C-o-c fa
2 selditional Son des a	hich	100 % be
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B-18 SW Comp E		
B-18 FLOOR E		
PLEASE Call It you have	oug	questions.
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Field Office: 23 Year Treat	<del></del>				نب				nis are attached	, and are a part of this Recon	ð.
Address: 27280 theafter IT' -	<u> 20.96 € 11</u> <del>12331</del>				ob N ocati	on:	ON RESPO	ONSIVE			
	r					 \па <b>i</b> ysi			ule, CHIA		_
Project # Bcr. 35 - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 1	РН-G 8020	1 4 30. 1		Lather					\$ 500		of Containers
Sampler's Name _ Dicht Sampler's Signature	HCID TPHQ/BTEX/WTF 8015 Imadiled 1/8 1PHG WTPH-D 8015 Imadiled)	TPH 418 1MTPH	602/8020 Volacie Organica 624/8240 (GC/MS)	Halogenaled Volaties 601/6010	25/8270 (GCA espeides/PCBs	OBVBOBO Otal Lead	nonty Pollutani Aetais (13)	CCLP Metals	4£AD 4.0.	Comments/	Number of Co
B-18 Fues PE 17/95 12:30 Seil  B-18 Fues PE 17/95 12:30 Seil  B-18 Sul Fass PE 11/95 4 3:							42	-	1 Annuy?	EN 24 HOUR T.A.T.	
118 502 Fast De 12/1/15 11 15				   -					1 trup	Same Sample	1
8-16 Sul Sugar APZ 12/1/15 12 co. P									1 Apres	SAMPLE	6
			1		1_						L
Special Instructions/Comments:  ANALYZE. CHLY THE SANCES INDICATED  ABOVE: THE COTHER. SANCES	Relinquished Sign 2446 Print 17446 Company 5 Time 2:95	g-ef-	Date is		Si P	ompar	/   	k 1 K SÆ	Pate 12-7-9	Sample Receipt  Total no. of containers: Chain of custody seets: Rec'd. in good condition/cold: Conforms to record:	
UNTIL INSTRUCTED TO AMMUJUE	Received by:  Sign List 2 mills Sign List Never Client:  Sign List Delta Haras										
COR CUSTREC Nov 1005	Time <u>-5: 30</u>	pu	Date /2	1/1/25	-   1	ime <u>l</u>	0:40	<u> </u>	Date <u>  2-8-95</u>	Client Phone:	

# UNITED TECHNOLOGIES AUTOMOTIVE REMEDIATION DESIGN

ZANESVILLE, OHIO B0135-001-01

 	SITE LOCATION M	AP	 
		s.	

	DRAWING SHEET INDEX					
DRAWING NUMBER	DES <sup>NON</sup> RESPONSIVE					
<b>Y</b> 1	UTILITY PLAN					
¥2	AREA AS/SVE TRENCHING PLAN					
<b>Y3</b>	AS/SVE WELL CONSTRUCTION DETAILS					
¥4	AS/SVE WELL HEAD CONSTRUCTION DETAILS					
Y5-6	TRENCH SECTION DETAILS					
P1	PIPING & INSTRUMENTATION DIAGRAM LEGEND					
P2	SHALLOW ZONE SOIL ISVE PIPING & INSTRUMENTATION DIAGRAM					
P3	DEEP ZONE SOIL ISVE AND AIR SPARGE PIPING AND INSTRUMENTATION DIAGRAM					
P4	OFF-GAS TREATMENT PIPING AND INSTRUMENTATION DIAGRAM					
M1-2	AREA EQUIPMENT PLAN DETAILS					
S1-2	AREA ENCLOSURE DETAILS/SHED ELEVATION VIEWS					
IE1	ELECTRICAL SYMBOLS LEGEND					
E2	ONE-LINE DIAGRAM AND EQUIPMENT SCHEDULE					
IE3	GENERAL ELECTRICAL DETAILS					
<b>R4-6</b>	ELECTRICAL WIRING DIAGRAMS					
<b>E7</b>	MOTOR CONTROL PANELS AND INTERPANEL, WIRING					

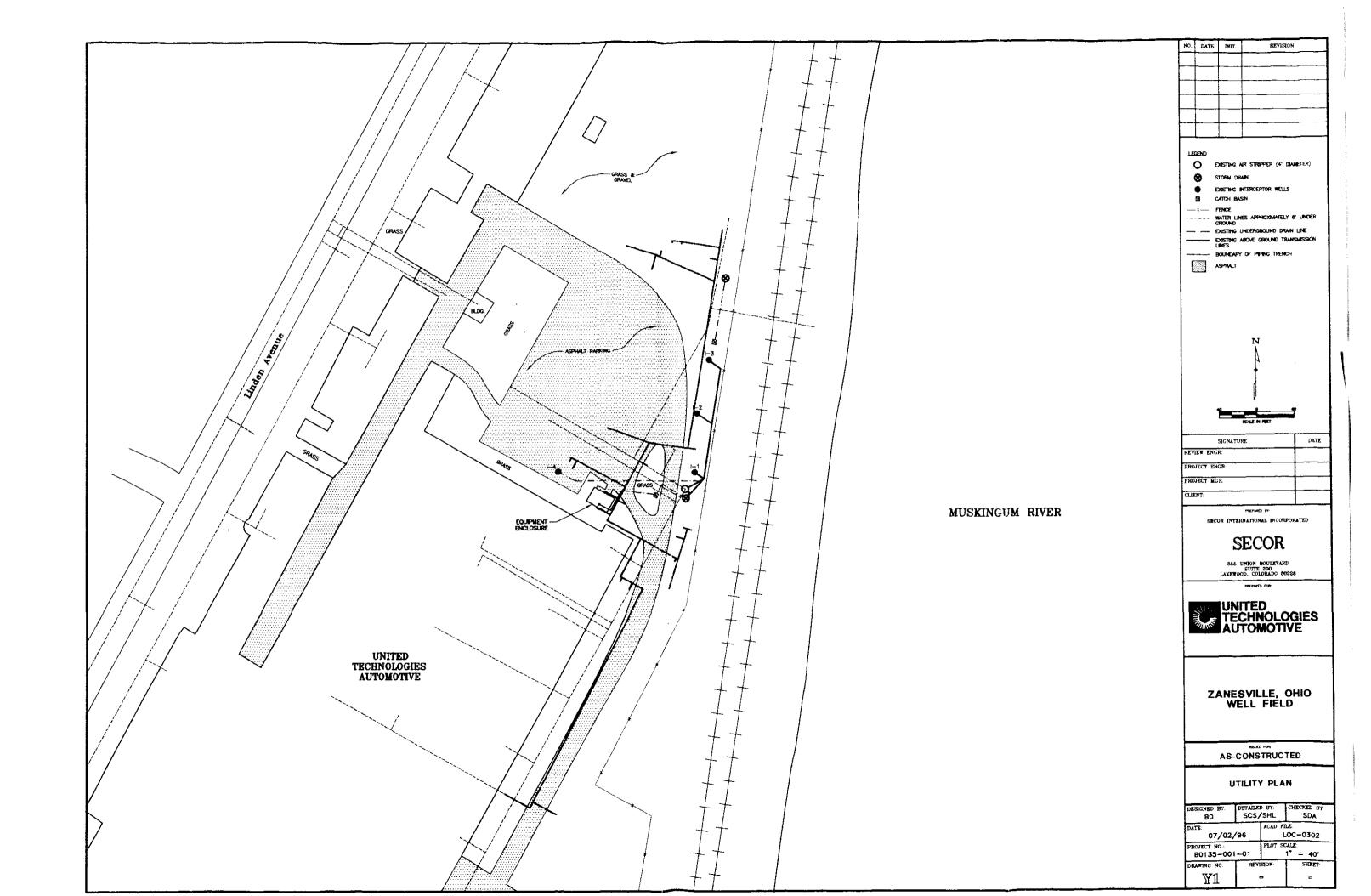
PREPARED BY:

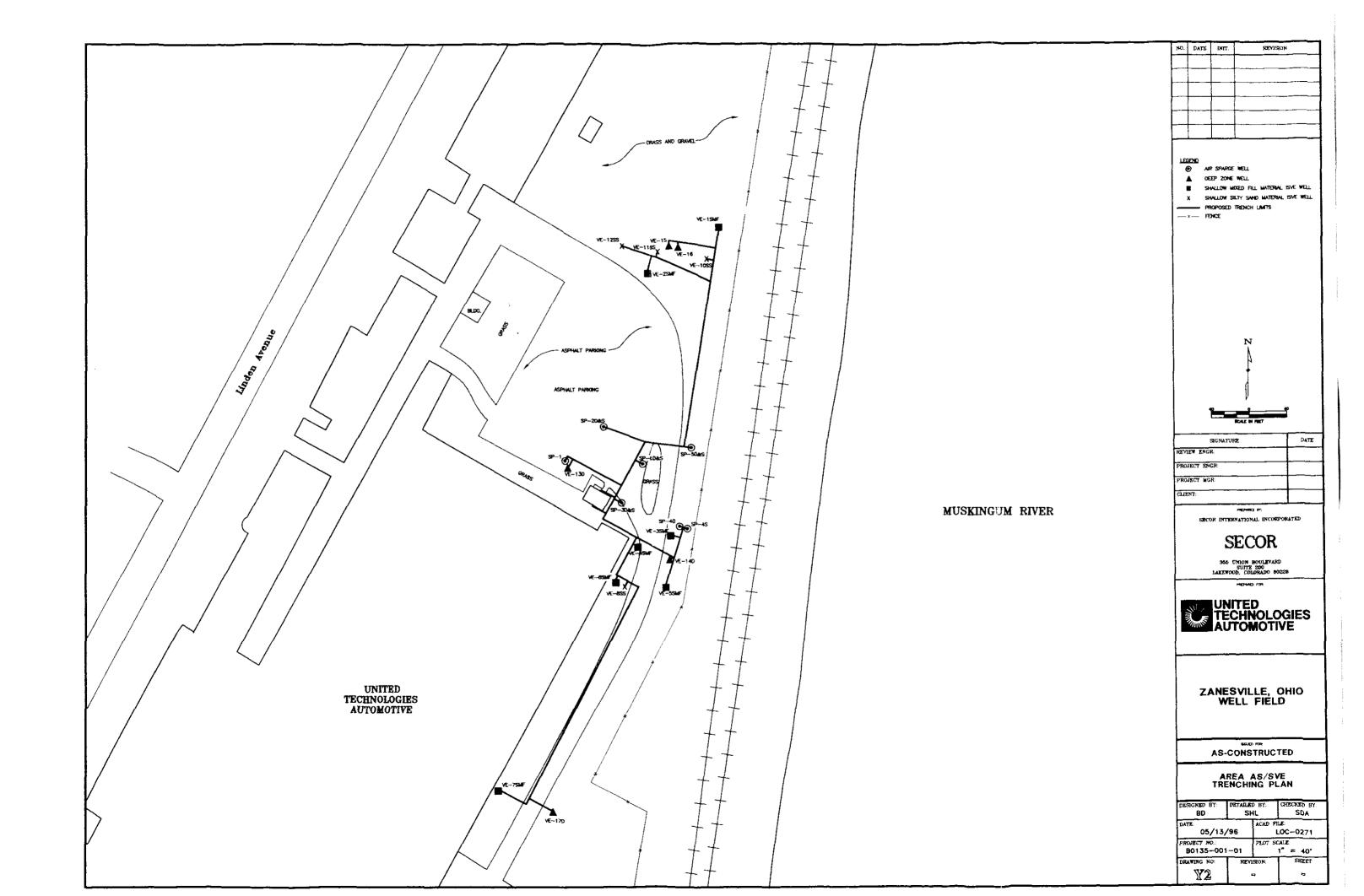
SECOR INTERNATIONAL INCORPORATED

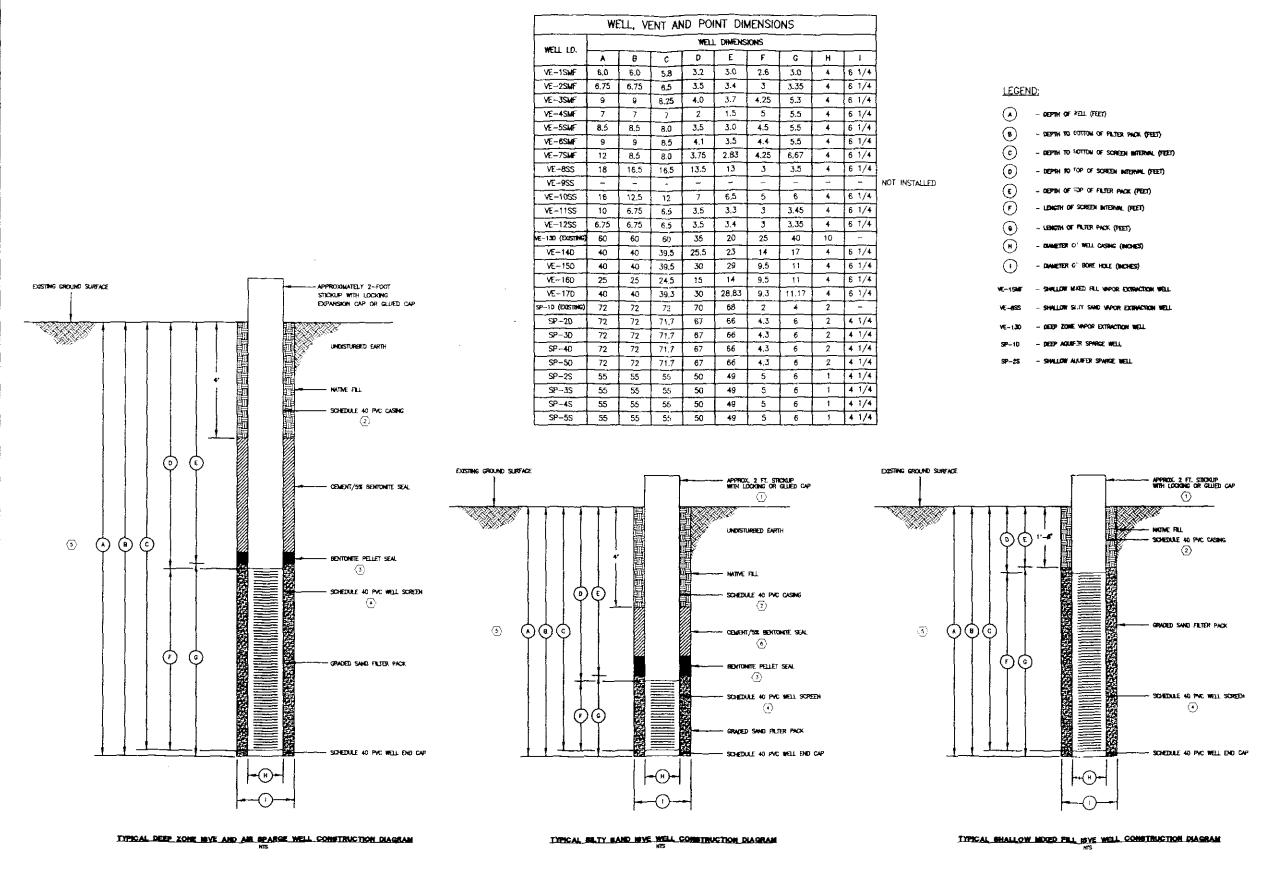
SECOR



THIS SET OF DRAWINGS HAVE BEEN REDUCED AND ARE NO LONGER TO SCALE







REVISION

NOTES/COMMENTS

NO. DATE INIT.

REFER TO TYPICAL WELL HEAD DETAILS.

\*\*LLUSTRATED ON DRAWING Y4.\*\*

BENTONITE PELLET SEAL TO EXTEND ONE FOOT ABOVE TOP OF THE FILTER PACK.

Screens in the vapor extraction well and aquifer sparge wells will be 0.020—finch waching sustited.

THE COMENT/SM BENTONITE SEAL WILL NOT BE UTILIZED ON SILTY SAND ISVE WELLS VE-85S, VE-10SS, AND VE-11SS, THE COMENT, SM BENTONITE SEAL WILL BE UTILIZED ON SILTY SAND ISVE WELL VE-12SS.

STURATURE DATE REVIEW ENGR. PROJECT ENGR PROJECT MGR. CLIENT

SECOR INTERNATIONAL INCORPORATED

**SECOR** 

355 UNION BOULEVARD SUITE 200 LAKEWOOD, COLORADO 50228 PREPARED FOR

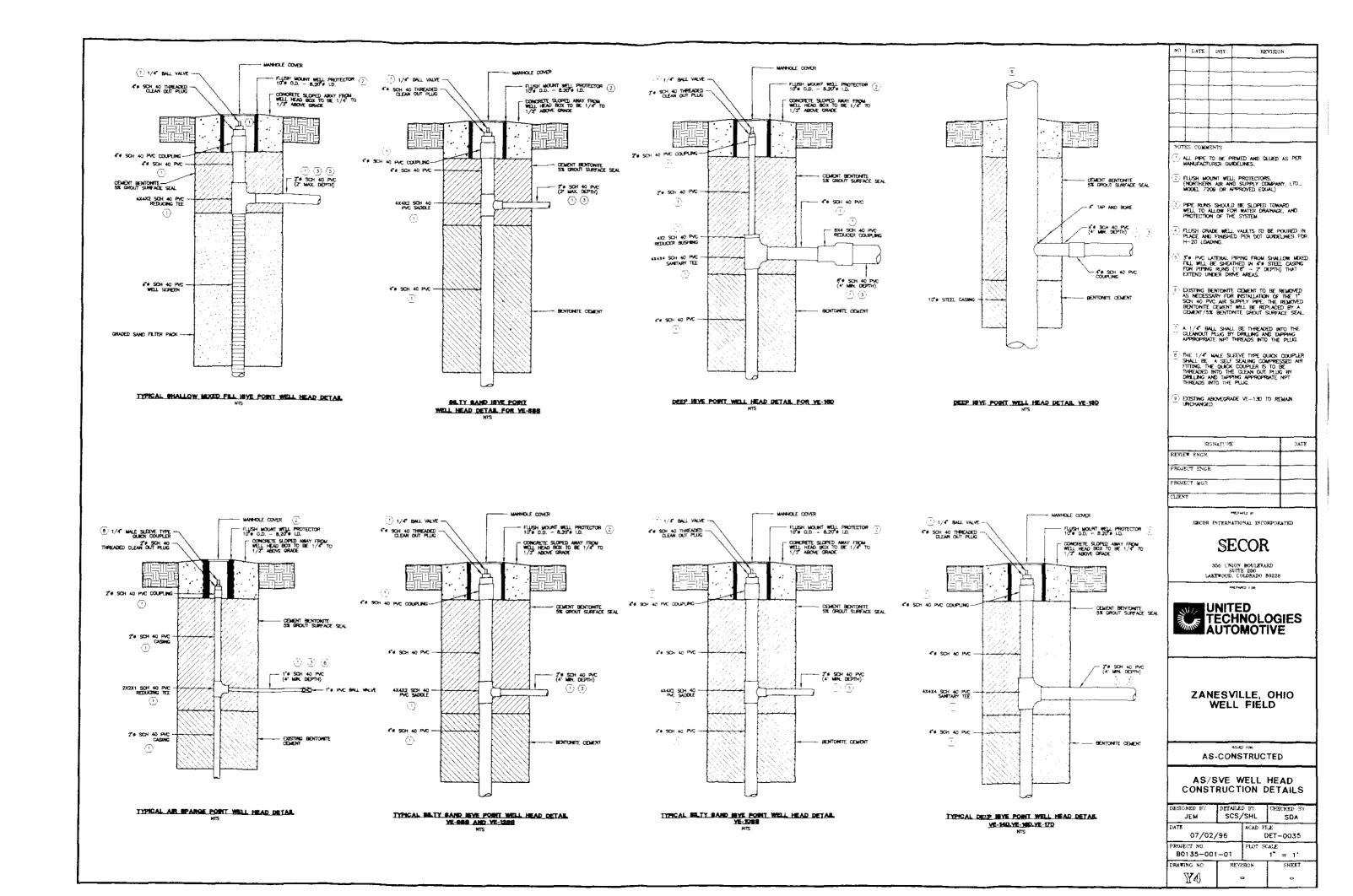


ZANESVILLE, OHIO WELL FIELD

AS-CONSTRUCTED

AS/SVE WELL CONSTRUCTION DETAILS

Designed by: Jem	DJZ	SCS	CHECKED BY:	
DATE: 07/02/	/96	ACAD FILE DET-0034		
PROJECT NO.: BO135-001	-01	PLOT SCALE:		
DRAWING NO:	KEV	ISION:	SHEET	
<b>Y3</b>		0		



# VALVE AND PIPING SYMBOLS GATE VALVE Y-TYPE STRAINER DUPLEX STRAINER BALL VALVE BUTTERFLY VALVE SLEEVE COUPLING (SC) CHECK VALVE FLOOR DRAIN DOM PLUG VALVE EQUIPMENT DRAIN CLEANOUT (CO) 3-WAY VALVE NORMALLY OPEN REMOVABLE PLUG MORMALLY CLOSED REMOVABLE CAP ANGLE VALVE BLIND FLANGE RELIEF OR SAFETY VALVE EXHAUST TO ATMOSPHERE (INSIDE) EXHAUST TO ATMOSPHERE (OUTSIDE) 1991 DIAPHRAGM VALVE SELF-CONTAINED PRESSURE REGULATING VALVE W/RELIEF REDUCER KNIFE CATE VALVE HEPH BACKFLOW PREVENTER -C QUICK DISCONNECT COUPLING GAUGE SEAL ROTAMETER RUPTURE DISK OR PRESSURE RELIEF ELEMENT VACUUM RELIEF VALVE VALVE OPERATOR SYMBOLS DIAPHRAGM WITH POSITIONER SOLENOID MOTOR, ELECTRIC HANDWHEEL OR LEVER CHAINWHEEL PRIMARY ELEMENT SYMBOLS - FLOW I ORIFICE PLATE PITOT TUBE TURBINE OR PROPELLOR TYPE METER VENTURI OR FLOW TUBE FILTER MAGNETIC FLOW METER

EQUIPMENT SYMBOLS

AIR COMPRESSOR

### GENERAL INSTRUMENT SYMBOLS

# ONE VARIABLE TWO VARIABLES LOCALLY MOUNTED $\ominus$ MAIN PANEL MOUNTED $\ominus$ REAR-OF-PANEL MOUNTED INTERLOCK PURCE SHARED DISPLAY, SHARED CONTROL LOCAL MOUNTED SHARED DISPLAY, SHARED CONTROL MAIN PANEL MOUNTED LINE SYMBOLS MAJOR FLOW LINE SECONDARY FLOW LINE CONNECTION TO PROCESS, MECHANICAL PNEUMATIC SIGNAL ELECTRIC SIGNAL CAPILLARY TUBING (FILLED SYSTEM) HYDRAULIC SIGNAL ELECTROMAGNETIC OR SONIC SIGNAL NO WIRING OR TUBING

SOFTWARE LINK

FLEXIBLE HOSE

TIE POINT

LINE CONTINUATION

SPECIFICATION BREAK XX = PIPING MATERIAL

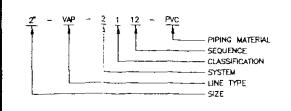
 $\Sigma$ 

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#### LINE TYPE

AIR BWA CCGW DEFF EXIL LO NPW P S CH SS FF CW UGE V VAP	AIR. ATMOSPHERIC PRESSURE BACKWASH COMPRESSED AIR COMPRESSED AIR COMPRESSED AIR CONTAMINATED GROUNDWATER DRAIN EFFLUENT EFFLUENT LEAK DETECTION NATURAL GAS NON-POTABLE WATER PRODUCT POTABLE WATER SANITARY SEWER SCHEDULE SLUDGE SAMPLE PORT STORM DRAIN TOTAL FLUIDS TREATED GROUNDWATER UNDERGROUND ELECTRICAL VENT VAPOR
	SYSTEM
0 1 2 3	UNCLASSIFIED UTILITY GW COLLECTION GW TREATMENT/DISPOSAL
0 1 2	CLASSIFICATION UNCLASSIFIED WESTERN SOURCE AREA EASTERN SOURCE AREA

# PROCESS PIPING IDENTIFICATION



# EQUIPMENT/INSTRUMENT IDENTIFICATION

# GENERAL ABBREVIATIONS

DO	DISSOLVED OXYGEN
ESA	EASTERN SOURCE AREA
FC	FAIL CLOSED
FĪ	FAIL INDETERMINATE
FL.	FAIL LOCKED
FO	FAIL OPEN
FQi	FLOW QUANTITY INDICATOR
F5	FLOW SENSOR
HOA	
1/1	CURRENT-TO-CURRENT
i/P	CURRENT-TO-PNEUMATIC
LEL.	LOWER EXPLOSIVE LIMIT
LR	LOCAL-REMOTE
NEC	NATIONAL ELECTRIC CODE
oc	OPEN-CLOSE
00	ON-OFF (MAINTAINED)
ORP	OXIDATION' REDUCTION POTENTIAL
osc	OPEN-STOP-CLOSE (MOMENTARY)
POTW	PUBLICLY OWNED TREATMENT WORKS
WSA	WESTERN SOURCE AREA

SEGNATURE	DATE
REVIEW ENGR:	
PROJECT ENGR	
PROJECT NGR.	
CHENT	<del></del> -

NO. DATE INIT.

REVISION

PROPARED IN: SECOR INTERNATIONAL INCORPORATED

SECOR

356 UNION BOULEVARD SUITE 200 LAKENOOD, COLORADO 86228

UNITED TECHNOLOGIES AUTOMOTIVE

ZANESVILLE, OHIO WELL FIELD

AS-CONSTRUCTED

PIPING & INSTRUMENTATION DIAGRAM LEGEND

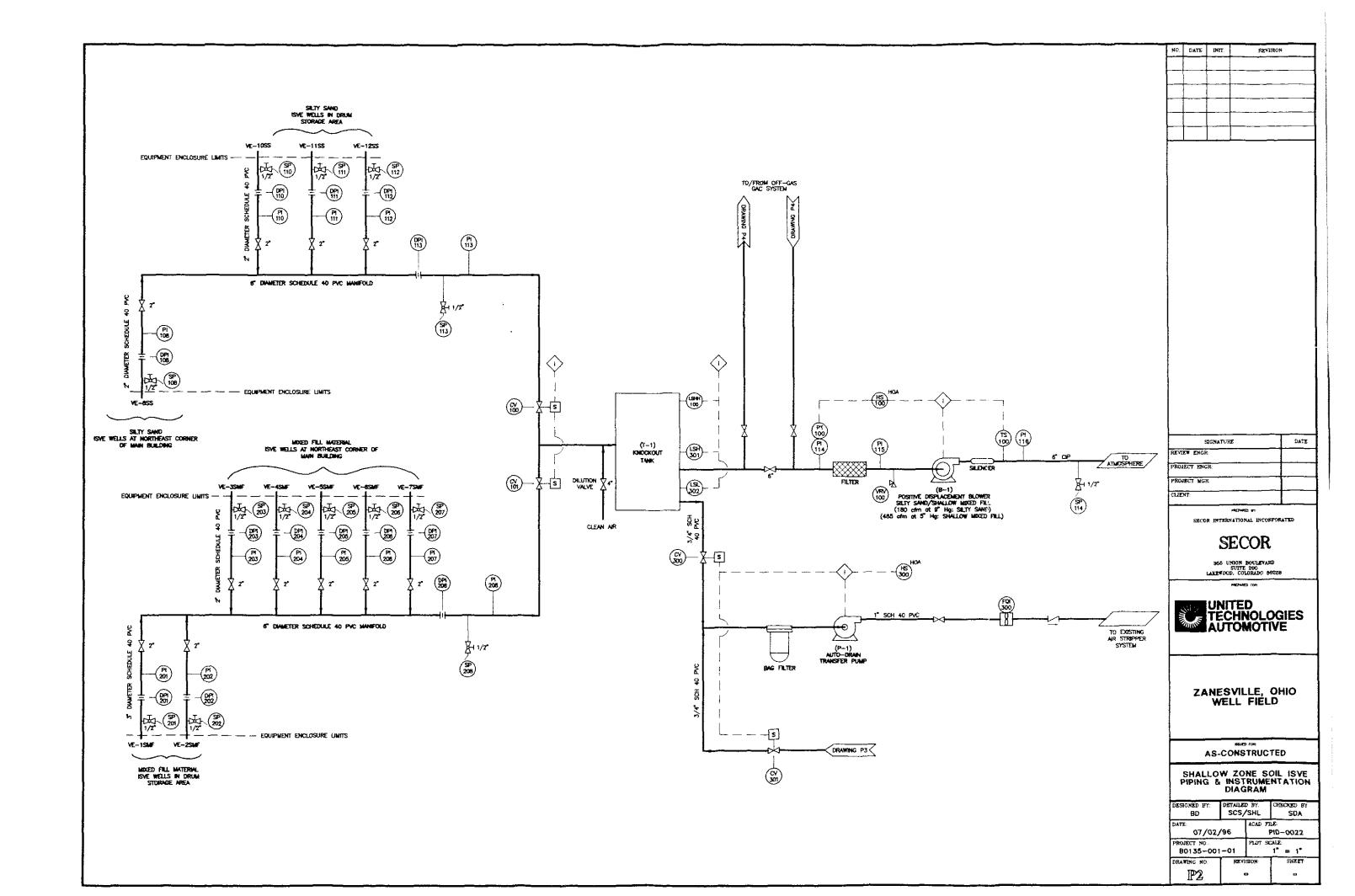
DESIGNED BY:	DETAILE D.	JZ	CHECKED BY		
DATE: 07/02/	/96	ACAD FILE SYM-0008			
PROJECT NO.: 80135~001	-01	PLOT SC	TALE. 1" == 1"		
DRAWING NO.	i	SION:	SHEET		

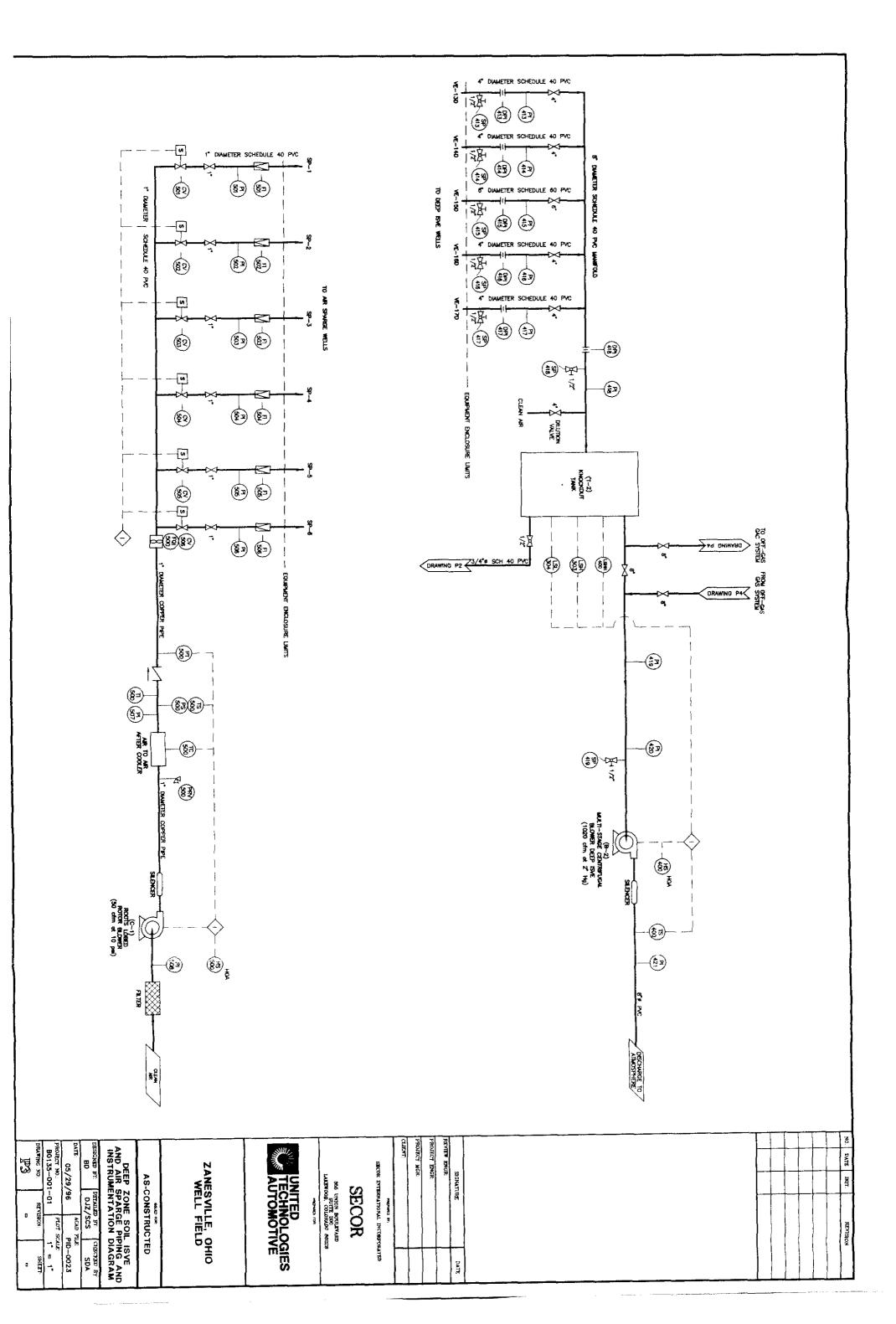
## INSTRUMENT IDENTIFICATION TABLE

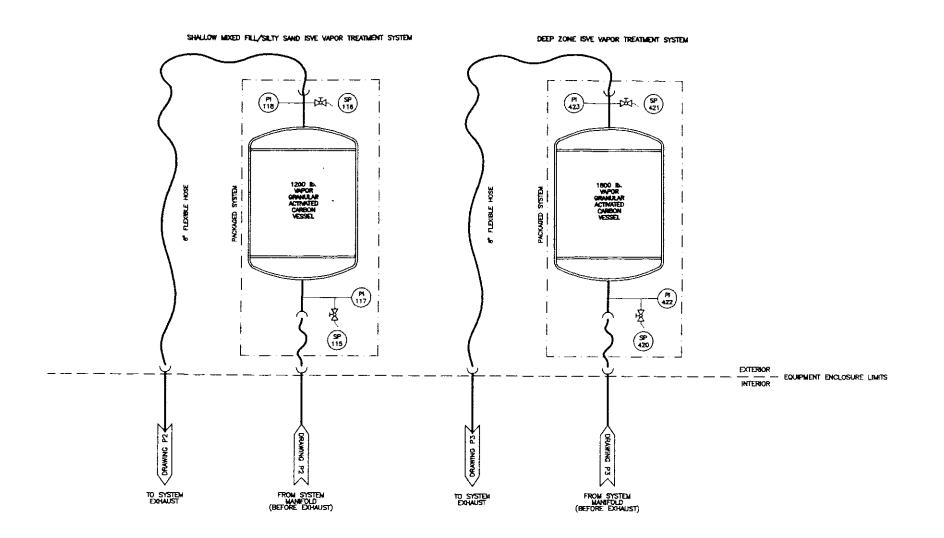
MATERIAL IDENTIFICATION

ASPHALTIC CONCRETE
BLACK 180N PIPE
CHLORINATED POLYMMY, CHLORIDE
CARBON STEEL PIPE
COPPER
CORRUCATED METAL PIPE
CAST 180N PIPE
GALVANIZED STEEL PIPE
GROUNDWATER
HIGH DENSTY POLYETHYLENE
POLYETHYLENE PIPE
POLYETHYLENE PIPE
POLYETHYLENE PIPE
REINFORCED CONCRETE PIPE
RUBBER HOSE
STANLESS STEEL
VITRIFIED CLAY PIPE

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3	PROBLEM DEPOSITIONS	PORC	POIC	PDC	POC/	POR	PDI	PDSH	POSE.	L	PDRT	ĕ	Ę	PDY	PE			
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3	SPEED/PEOLEDICY	SPIC	SEC	- SC	2CA	EK .	8	583H	950	\$3HL	987	<b>9</b> 7	*	SY	52.	SX		
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REVISION

NO. DATE INIT.

DATE

SECOR INTERNATIONAL INCORPORATED

SECOR

355 UNION BOULEVARD SUITE 200 LAKEVOOD, COLORADO 80228

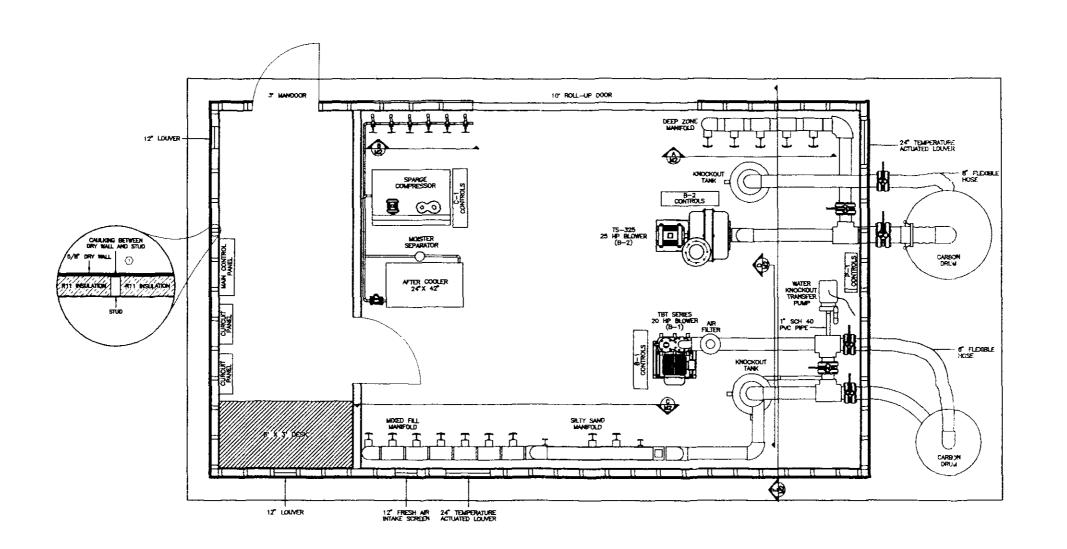


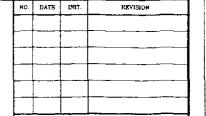
ZANESVILLE, OHIO WELL FIELD

AS-CONSTRUCTED

OFF-GAS TREATMENT PIPING AND INSTRUMENTATION DIAGRAM

SDA/DJZ	DJZ/SCS		CHECKED BY	
DATE: 05/29/	/96	ACAD FILE: PID-0024		
PROJECT No.: 90135001	-01	PLOT SO	ALE: 1" = 1"	
DRAWING NO RE		SION:	SHEET	
IP43		-		





#### NOTES/COMMENTS:



SIGNATURE	DATE
REVIEW ENGR:	
PROJECT ENCR	
PROJECT MGR:	
CLIENT:	
MOWED BY	

SECOR INTERNATIONAL INCORPORATED

## **SECOR**

365 UNION BOULEVARD SUITE 200 LAKEWOOD, COLORADO 60228

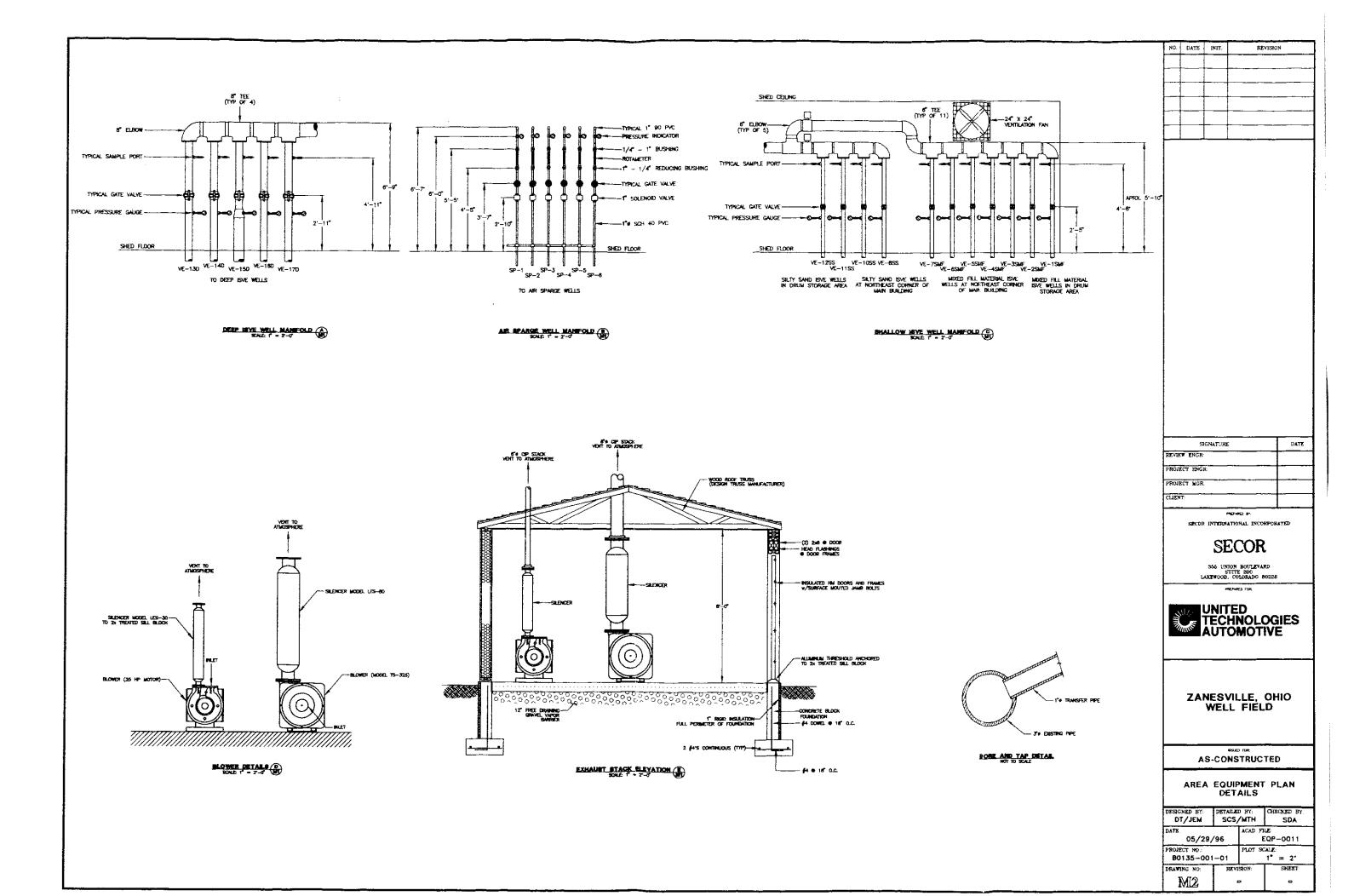


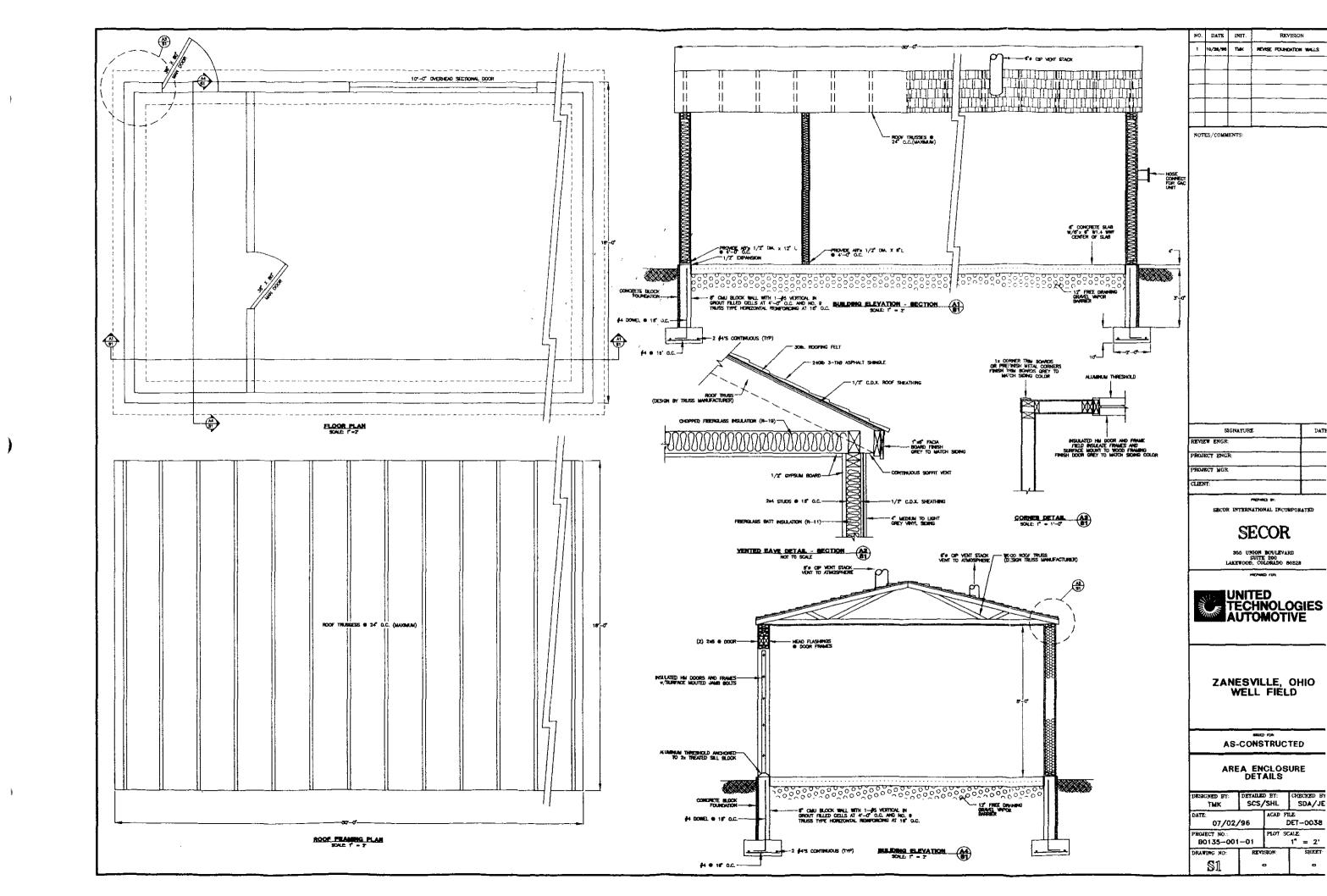
ZANESVILLE, OHIO WELL FIELD

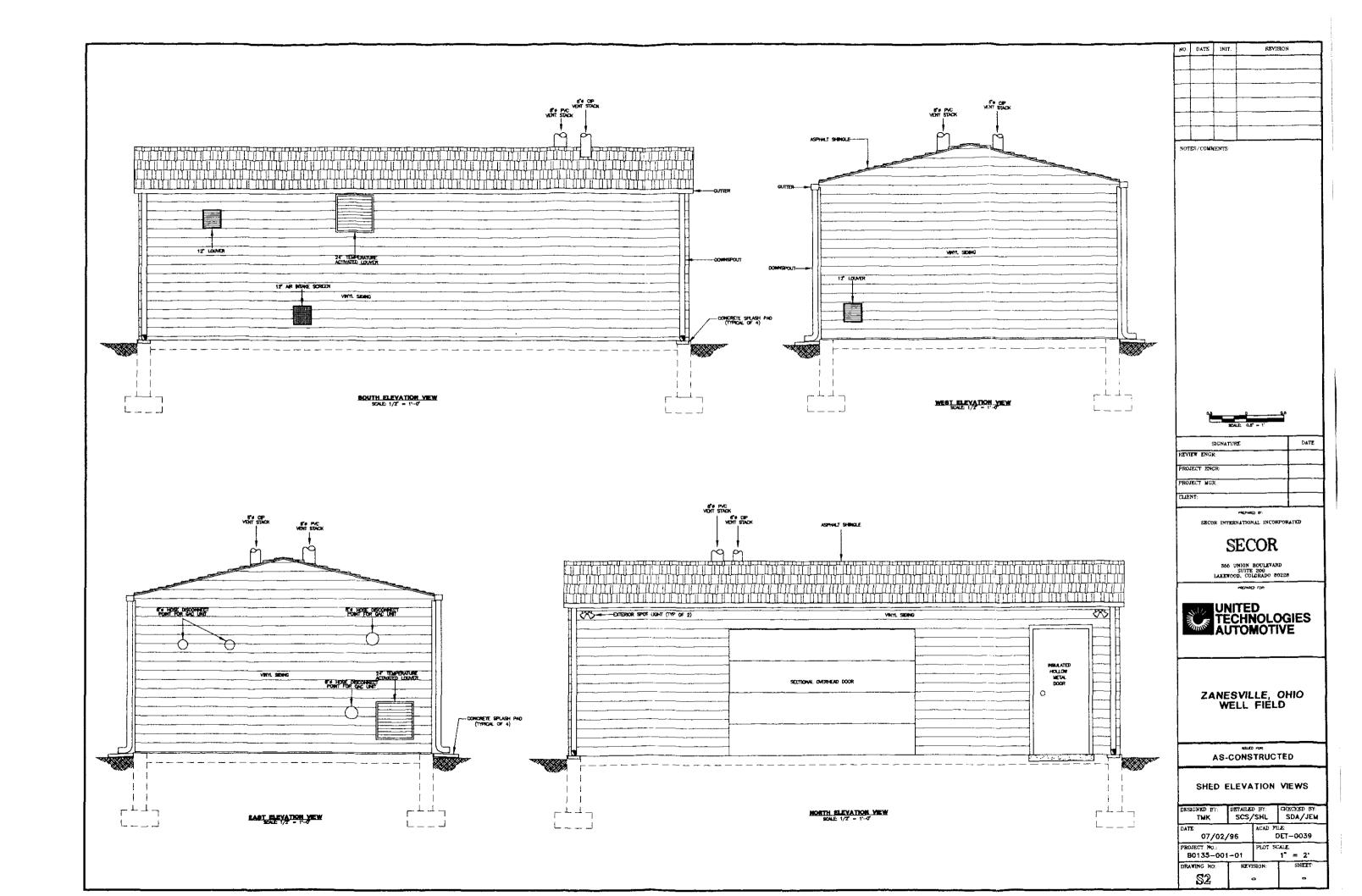
AS-CONSTRUCTED

AREA EQUIPMENT PLAN

Designed by: BD	SCS,	D BY: /DJZ	CHECKED BY
DATE: 05/29/96		ACAD FILE EQP-0010	
PROJECT NO.: B0135-00	1-01	PLOT S	CALE: 1" = 2'
DRAWING NO:	HEV	SION:	SHLET
M1	-	6	-







# **ATTACHMENT 3**

**AS/SVE Well Construction Logs** 

Project Name UTA- Zanesville	Piez/Weil No. VE- 855
Location Fanesville, OH	
Installed by Belasco Drilling	Date 10/31/95
Inspected by M. Powers	Date
Method of Installation 614" J.D. Augers	Time
Remarks	
FLUSH MOUNT	
777777	Type of surface seal
1000	- Depth of surface seal
	D/Type of surface casing
	D/Type of riser pipe PUC 4" Sch 40
	Type of backfill
	Depth of top of seal 4.6 /
	Type of seal Bet Chips
	Depth of top of filter pack
	Depth of top of screen
	Type of filter pack Med Sands
	D/Type of screen 4" PUC 5ch 46 Schnson
	Screen slot size O.010
	Depth of bottom of screen 16.5
	Depth to bottom of plugged bank
<u>-</u>	Type of backfill below observation well  Ret Chips to 16.5
· · · · · · · · · · · · · · · · · · ·	Depth of bottom of boring $\frac{18'}{2}$
	Diameter of boring

Project Name UTA - Zanes ville	Piez/Well No. VE-65MF				
Location Zanesuille, OH	Project No. 57-200				
Installed by Belasco Dulling	Date 10/31/95				
Inspected by M. Powers					
Method of Installation 6½" H.S. A	Time				
Remarks					
FLUSH MOUNT	FLUSH MOUNT				
gaga a agaga	Type of surface seal				
9400	— Depth of surface seal				
	ID/Type of surface casing				
	ID/Type of riser pipe PUC 4" SCL46				
	Type of backfill				
	Depth of top of seal 2.0				
L	Type of seal IBent Chips				
	Depth of top of filter pack  Depth of top of screen  3.5  4.1'				
	Type of filter pack Med Sand				
	ID/Type of screen Puc Sch 40 4"				
	Screen slot size 10				
	Depth of bottom of screen 8.5				
	Depth to bottom of plugged bank 9.0				
	Type of backfill below observation well				
	Depth of bottom of boring  Diameter of boring				
	-				

Project Name OTA- Zanesville, OH	Piez/Weil No. <u> </u>	
Location Zanes Ville, OH	Project No. 57 · 200	
Installed by Belasco Drilling		
Inspected by Mike Powers - Envirage	Date	
Method of Installation 61/41 I. D. H. S. A		
Remarks		
FLUSH MOUNT	j	
7/////////	Type of surface seal Site Soils to	
वित्र करते वित्र वेश	— Depth of surface seal 4'-0"	
	Depth of surface seal 4-0	
	ID/Type of surface casing None Set	
	ID/Type of riser pipe 4" Puc Sch 46	
	ib) Type of fiser pipe TYVE SCHAP	
	Type of backfill (Front =) Cement / Bet	
	5%	
L 7-16	Depth of top of seal 23'-0"	
30'-6"	Type of seal Bet hole plug	
L 70'-6"	Depth of top of filter pack 28 - 10 "	
40~0"	Depth of top of filter pack  Depth of top of screen $28-10$ $30-0'$	
	Type of filter pack Sand	
	ID/Type of screen 4 PVC Sch 40	
	ID/Type of screen 4 PVC SCh 40	
	Screen slot size/O	
	Depth of bottom of screen 39'-4"	
	Depth to bottom of plugged bank 40'-0'' section	
	Type of backfill below observation well	
	Sandy material	
	Depth of bottom of boring	
	Diameter of boring	

Installed by Belasco Drilling Inspected by M. Powers	Project No. <u>57-200</u>		
Inspected by M. Powers			
	Date 10/30/95		
1			
Method of Installation 6'A" I.D HSA.	Time		
Remarks			
FLUSH MOUNT			
Type garage garage gro	of surface seal fill from 2' to		
	of surface seal <u>Grade</u>		
ID/Type	of surface casing None		
ID/Type	of riser pipe 4" PUC 5Ch 40		
	backfill		
L			
	f top of seal $2.0$		
Type of	seal Bet Chips		
	f top of filter pack $\frac{2-10}{3-9}$ f top of screen		
Type of	filter pack Dn.ll Sand		
ID/Type	of screen Puc Sch 40 Thread - Johnson		
Screen s	lot size O, O O		
Depth of	f bottom of screen <u>B,O</u>		
y y Section Depth to	bottom of plugged bank 8,5		
Bet Bet	backfill below observation well		
1	bottom of boring $\frac{/2'}{\pm 9''}$		

Project Name OTA - Zanesville, 6H	Piez/Well NoVE-14 D
Location Zanesville, OH	Project No. 57-200
Installed by Belasco Drilling	Date 10/31/95
Inspected by M Powers	
Method of Installation 6/4" H. S. A.	Time
Remarks	
FLUSH MOUNT	
(4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.	Type of surface seal
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Depth of surface seal 4.0'
	ID/Type of surface casing
	107 Type of surface casing
	ID/Type of riser pipe 4" PUC SCh 40
	Type of backfill Bet grout.
	Depth of top of seal Z1.Z
	Type of seal Bet Chips - Haleplus
	Depth of top of filter pack  Depth of top of screen  23.0' 255'
	Depth of top of screen 255
	Type of filter pack Aed Sands
	ID/Type of screen PVC Sch 40 4" John Son
	Screen slot size 0.016
	Depth of bottom of screen 39 - 6"
	Depth to bottom of plugged bank 46'-6" section
	Type of backfill below observation well Sand-Med.
	Depth of bottom of boring $\frac{40^{\circ}-0^{\circ\prime\prime}}{+9^{\circ\prime\prime}}$
	Diameter of boring

	7	(2) (1
	Project Name <u>OTA - Zanesuille</u>	Piez/Well No. <u>\$P-4</u>
-	Location Zanesville, OH	Project No. 57-200
	Installed by Belasco Drilling	Date
	Inspected by M. Powers	Time
	Method of Installation 44" H.S.A	
İ	Remarks did cont Split Spoons from	n 40 to 72
	FLUSH MOUNT	
	rana a gaaaa T	pe of surface seal None
	De De	pth of surface seal 4'
	ID/T	ype of surface casing
	ID/T	ype of riser pipe 2"PUC Sch40
1	Туре	of backfill grout
		th of top of seal 55
	Туре	e of seal Bet Plug
	Dept	th of top of filter pack 65.0
ŀ	Dept Dept	th of top of screen 67.5
	Туре	of filter pack Med Sand
	ID/T	ype of screen 2"PUC 5Ch 46 Sohnson
	Scre	en slot size O.OIO
	Dept	h of bottom of screen <u>71-5</u>
		h to bottom of plugged bank ラス '
ļ		e of backfill below observation well
1	Dept	h of bottom of boring $\frac{72'}{110'}$
	Diam	seter of boring
_		

Project Name 1) TA - Zanesville	Piez/Well No. VE-35ME		
Location Zanesville, OH	Project No. 57-200		
Installed by Belasco Drilling	Date		
Inspected by M. Powers	Date		
Method of Installation 6 4" I.D Augers	Time		
Remarks			
FLUSH MOUNT			
(9.9.9.9 9.9.9.9.9.9.9.9.9.9.9.9.9.9.9.9	Type of surface seal		
20.00	— Depth of surface seal		
	ID/Type of surface casing		
	1101-01-44		
	ID/Type of riser pipe 4"PVC Sch 46  Sohn son:		
	Type of backfill		
	Depth of top of seal 2.0		
L	Type of seal Bet chies		
	Depth of top of filter pack 3.7		
	Depth of top of screen 4.0		
	Type of filter pack Med Sand		
	ID/Type of screen 4" Puc 5ch 40		
	Screen slot size		
	Depth of bottom of screen 8.25		
	Depth to bottom of plugged bank 9.0 '		
	Type of backfill below observation well  Sand - Medium		
Y	Depth of bottom of boring 9.0'		
	Diameter of boring + 9"		

Project Name OTA - Zanesville	Piez/Weil No. VE-955
Location Zanesulle, OH	Project No. 57 - 200
Installed by Belasco Drilling	
Inspected by M. Fourts	
Method of Installation 6 1/4" I.D HS A	Time
Remarks Hole grouted No we	11 installed
FLUSH MOUNT	
/////Agaba gaga	Type of surface seal
	Type of Juriace Jean
	— Depth of surface seal
	ID/Type of surface casing
	ID/Type of riser pipe
	Type of backfill
	Depth of top of seal
, r	Type of seal
	Depth of top of filter pack
	Depth of top of screen
	Type of filter pack
	ID/Type of screen
	Screen slot size
	Depth of bottom of screen
	Depth to bottom of plugged bank section
	Type of backfill below observation well
	Depth of bottom of boring
	Diameter of boring ————

Project Name OTA - Zanesville	
Location Zonesville, OH	Project No. 31 200
Installed by Belasco Drilling	Date 11/2/95
Inspected by M. Powers	Time
Method of Installation 6 1/4" H.S. A.	Time
Remarks	
FLUSH MOUNT	
1///////	Type of surface seal
	— Depth of surface seal 4.0 '
	ID/Type of surface casing
	77 (1) (2) (2)
	1D/Type of riser pipe PVC SCh 40 4'
	Type of backfill Ret Grout
	Depth of top of seal 12,00
	Type of seal Bet Chips
	Depth of top of filter pack 14.0
	Depth of top of screen 15
	Type of filter pack Med Sand
	ID/Type of screen 4" PVC Sch 40
	Screen slot size 0:010
	Depth of bottom of screen 24.5
	Deput of Button of Screen
	Depth to bottom of plugged bank Z5.0
	secuon
	Type of backfill below observation well
	Depth of bottom of boring 25.0
	Diameter of boring $\frac{1}{2}$
	·

Project Name UTA - Zanesville	Piez/Well No. <u>/E - 15 D</u>
Location Zanesuille, OH	Project No
Installed by Belasco Drilling	I Date 11/ -/ 10
Inspected by M. Powers	Time
Method of Installation 6 1/4 H. S. A.	Time
Remarks	
FLUSH MOUNT	
Gagara Gagara	Type of surface seal None
	— Depth of surface seal 4,0
	ID/Type of surface casing None
	ID/Type of riser pipe 4" PUC SCh 40 RISE C
	Type of backfill Bet. Grout
	Depth of top of seal 27.0
	Type of seal Bet. Chips
	Depth of top of filter pack 29,0
	Depth of top of screen30,0
	Type of filter pack
	ID/Type of screen 4" Puc Sch 40
	Screen slot size 0.010
	Depth of bottom of screen 39.5
	Depth to bottom of plugged bank 40.0
	Type of backfill below observation well
▼	Depth of bottom of boring  Diameter of boring
	Diameter of Dorning

Project Name UTA - Zanesville	Piez/Well No. VE-55MF	
Location Zanesville, OH	Project No. 57-200	
Installed by Belasco Drilling		
Inspected by M. Powers		
Method of Installation 6/4" HSA	Time	
Remarks		
FLUSH MOUNT		
Giagna Gagaga	Type of surface seal	
24.0	- Depth of surface seal	
	D/Type of surface casing	
	ID/Type of riser pipe 4"Puc Sch40 Johnson	
	Type of backfill	
	Depth of top of seal 2.0	
	Type of seal Bet Chips	
	Depth of top of filter pack 3.0	
	Depth of top of screen 3,5	
	Type of filter pack Med Sands	
	D/Type of screen 4" PUC SCh 40	
	Screen slot size 5.010	
	Depth of bottom of screen <u> 영.이</u>	
	Depth to bottom of plugged bank 8,5	
	Type of backfill below observation well ≤anà	
	Depth of bottom of boring $\frac{8.5}{+9''}$	
	Diameter of boring	

_		300 31-2-M
Project Name UTA - Za		Piez/Well No. SP-3-B
Location Zanesville		Project No. 57-200
Installed by Belasco	Drilling	Date
Inspected by 14. Pow	<u>ers</u>	
Method of Installation 4/4		Time
Remarks Shallow Spa	arge well see sp	-3-A Sheet for
!	Hon	
	FLUSH MOUNT	
//////////////////////////////////////	44444	Type of surface seal
43.0	9.9.9	Depth of surface seal A.O.
,	10	/Type of surface casing
,	- I	VType of riser pipe / "PVC 5Ch 40
ļ Ļ		Johnson
L <sub>1</sub>	T T	ype of backfill Bet. Cement growt.
L	- 0	epth of top of seal 44.5
L	T	ype of seal Ret Chips
L		epth of top of filter pack 49.0
	D	epth of top of screen <u>50.0</u>
		ype of filter pack <u>Med Sand</u>
<b>  L</b> s		Type of screen 1" Puc 5ch 40 John son
	Sc	reen slot size
	D	epth of bottom of screen <u>54. 7</u>
		epth to bottom of plugged bank 55.0
	Т,	/pe of backfill below observation well 
<b>\</b>		pth of bottom of boring 55.5
	i i	ameter of boring
	1	

Project Name UTA - Zanesuille	Piez/Well No. VE - 11 SS
Location Zanesville, OH	i Project No. 377
Installed by Belasco Drilling	Date 11/3/95
Inspected by M. Powers	Time
Method of Installation 6 4" HS A	Time
Remarks	
FLUSH MOUNT	
	Type of surface seal
(A 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Type of surface sear
	Depth of surface seal
	<b></b>
10	Type of surface casing
	Type of riser pipe PUC SCh 40 4"
	Johnson
	ype of backfill
	epth of top of seal 2.0
	ype of seal Bet chips
- 1 - 1 · 1 · 1 · 1 · 1 · 1 · 1 · 1 · 1	epth of top of filter pack 3,3
	epth of top of screen 3,5
	ype of filter pack Med Sands
L L	Type of screen 4" PUC SCh 40
Sc	creen slot size 0,610
De De	epth of bottom of screen <u>6.5</u>
	epth to bottom of plugged bank
	ection buttom or plugged bank
	pe of backfill below observation well  Bet いたら
	epth of bottom of boring
	ameter of boring

GROUNDWATER OBSERVATION WELL REPORT See 57-3-8		
Project Name ()TA - Zanesuille	Piez/Well No. SP-3-A	
Location Zanesville of	Project No. 57 - 200	
installed by Belesco Drilling	Date 11/7/95	
Inspected by M Powers	Date	
Method of Installation 4'/4" HSA	Time	
	ee sp-3-8 to shollow Installation	
details		
FLUSH MOUNT		
विज्ञान वज	Type of surface seal	
	Depth of surface seal	
	ID/Type of surface casing	
	1D/Type of riser pipe 2" PUC SCh 40	
	Type of backfill	
L	Depth of top of seal 55.5	
	Type of seal Bet Chips	
	Depth of top of filter pack 66.0	
	Depth of top of screen G7.0	
	Type of filter pack Mel Sand	
	ID/Type of screen 2" PUC SCh 40	
	Screen slot size 0.010	
	Depth of bottom of screen 71,7	
	Depth to bottom of plugged bank 32.0	
	Type of backfill below observation well	
	Depth of bottom of boring	
<del>  </del>	Diameter of boring ±6 "	

Project Name <u>OTA - Zanes ville</u>	Piez/Well No. VE-15MF
Location Zanesville OH	Project No. 57-200
Installed by Bclasco Drilling	Date 11/6/95
Inspected by M. Powers	Date
Method of Installation 64" HSA	· · · · · · · · · · · · · · · · · · ·
Remarks	<del></del>
FLUSH MOUNT	
//////Agaig	Type of surface seal
( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )	
	— Depth of surface seal
	ID/Type of surface casing
	ID/Type of riser pipe 4" PVC SCh 40
	Johnson
	Type of backfill
	Depth of top of seal 2.0
	Type of seal Bet Chies
L	Depth of top of filter pack 3.0
	Depth of top of screen 3.2
	Type of filter pack Med Sand
	ID/Type of screen 4" PUC SCh 40
	Screen slot size 0.010
	Depth of bottom of screen 5.8
	Depth to bottom of plugged bank
	Section ————————————————————————————————————
	Type of backfill below observation well  ハヒム ちゃん
	Depth of bottom of boning $\frac{6.0}{i}$
	Diameter of boring $\frac{\pm 9}{}$

Project Name UTA - Zanesuille	
Location Zanesuille, OH	i Projectivo. Como Como Como Como Como Como Como Co
Installed by Bolasco Dalling	Date
Inspected by M. Pouver S	Date
Method of Installation 6/4" H.S.A.	Time
Remarks	
FLUSH MOUNT	
/////////	Type of surface seal
विवय के व	
	Depth of surface seal
	ID/Type of surface casing
	ID/Type of riser pipe 4"PVC_SCh_40
Type of backfill	
L	Type of Backfill
L	— Depth of top of seal 3.0
	Type of seal Bet Chips
F ~     '	Type of Seal Desired
	Depth of top of filter pack 6.5
	Depth of top of screen 7.0
	Type of filter pack MEE Sand
	ID/Type of screen 4" PVC SCh 40
	0.010 5104 Johnson
	Screen slot size 0.010 516+
	Depth of bottom of screen 12.0
	Depth to bottom of plugged bank 12.5
	Type of backfill below observation well
	Bet Chips
	Depth of bottom of boring
	— Diameter of boring ± 9"
	- ENVIOUS

Project Name UTA - Zanesville	
Location Zanesuille, OH	Project No
installed by Belasco Drilling	Date   /6/95
Inspected by M. Powers	
Method of Installation 61/4" H.S.A	Time
Remarks	
FLUSH MOUNT	
विश्व स्व विश्व वि	Type of surface seal
49.4.4	Depth of surface seal
	Deput of surface scal
	ID/Type of surface casing
	io/ Type of surface casing
	ID/Type of riser pipe 4 PVC SCh40
	Johnson
	Type of backfill
	Depth of top of seal 2.0
L	Type of seal Bet Chips
F L     L	Type of Seal 325, 3, 1, 1, 2, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,
	Depth of top of filter pack 34
	Depth of top of screen 3.5
	Type of filter pack Med Sand Pack
	ID/Type of screen 4"PVC Sch40
	6,010 Johnson
	Screen slot sizeO_O_O
	Depth of bottom of screen 6.5
	Depth to bottom of plugged bank , , , ,
	section
	Type of backfill below observation well  Bet Chips
	9.0
	Depth of bottom of boring  Diameter of boring

Project Name OTA-Zanesville	Piez/Well No. VE - 12.55
Location Zanesville, 014	- Project No. 57 - 200
Installed by Belasco Dalling	Date 11/6/95
Inspected by M. Powers	Date
Method of Installation 614" HSA	) <del></del>
Remarks	<del></del>
Remarks	
FLUSH MOUNT	
1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	- Type of surface seal
	Depth of surface seal
	O/Type of surface casing
	D/Type of riser pipe 4"PVC SCh 40
	ype of backfill
	Depth of top of seal 2.0
	ype of seal Bet Chips
	Pepth of top of filter pack 3.4
	lepth of top of screen 3.5
The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	ype of filter pack Med Sand
	Johnson 4" PVC Sch 40
s s	creen slot size
	epth of bottom of screen 6.5
	epth to bottom of plugged bank 6,75
1.52	ype of backfill below observation well  Set Chips
Do	epth of bottom of boring
1 ,	iameter of boring

Project Name OTA - Zanesville	Piez/Well No. SP-5-B
Location Zanesville, OH	Project No. 57 - 206
Installed by Belasco Drilling	Date11/8/95
Inspected by M. Powers	
Method of Installation 44 H.S.A	Time
Remarks Shallow sparge Point See Sp-5	-A for Deep
Point Installation details*	
FLUSH MOUNT	
7////////////	e of surface seal
99 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	e or surface seal
Dept	th of surface seal 4.0
іо/тур	e of surface casing
Li UDCTVr	be of riser pipe X PVC SCh40
	Jahnson
Type o	of backfill Grout
	of top of seal 47.0
	of top of seal 41.0
F L   L	r seal _net_Chips
Ls Depth	of top of filter pack 49.0
Depth	of top of screen 50.0
	(5)
Type o	f filter pack Med Sanh
10/Typ	e of screen 1" PVC Sch 40
	slot sizeOOLO
Deoth	of bottom of screen 54.6
Depth	to bottom of plugged bank 55.0
	f backfill below observation well
Depth o	of bottom of boring $55.5 \pm$
Diamet	er of boring ± 6"

Project Name UTA - Zanesville	Piez/Well No. SP-5-A	
Location Zanesville, OH		
Installed by Belasco Drilling	Date 11/8/95	
Inspected by M. Powers	Date	
Method of Installation 44" H.S.A	Time	
Remarks Deep sparge point at Location See SP-5-8 for		
Shallow Installation		
FLUSH MOUNT		
(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	Type of surface seal	
	- Depth of surface seal	
	ID/Type of surface casing	
	ID/Type of riser pipe 2" Puc Sch 40 John Son	
	Type of backfill <u>See 5heet 5P-5-8</u>	
	Depth of top of seal 55.5	
	Type of seal Bet chies 3/8"	
	Depth of top of filter pack 66.0	
	Depth of top of screen 67.5	
	Type of filter pack Med Sand	
	ID/Type of screen 2" PVC SCh 40	
	Screen slot size O.O.O	
	Depth of bottom of screen 71-6	
	Depth to bottom of plugged bank 12.0	
	Type of backfill below observation well  Med Sand	
	Depth of bottom of boring $\frac{72.0'}{1}$	
	Diameter of boring	

Project Name <u>UTA-Zanesuile</u>	Piez/Well No. SP-Z-A	
Location Zanesville, OIH	- Project No. 57-200	
Installed by Belasco Drilling	- 11/9/95	
Inepertad by / 1) 100000	Date	
Method of Installation 4/4" H.S.A.	Time	
Remarks See Sheet SP-Z-B for upg	per sparae Paint	
installation		
FLUSH MOUNT		
///////////	Type of surface seal	
विकास सम्ब		
	Depth of surface seal	
ID/Type of surface casing		
ID.	Type of riser pipe 2 Puc Sch 40	
	Johnson	
- L. 'Y	pe of backfill	
De De	epth of top of seal 55.5	
	pe of seal Bet Chirs	
	pe ur sear Secretary	
De	epth of top of filter pack 66.0 '	
De	pth of top of screen 67.0	
Ту	pe of filter pack Med Sand.	
	Type of screen PUC Sch 40	
	Johnson	
Sca	reen slot size	
	pth of bottom of screen 71.7	
	,	
<u> </u>	pth to bottom of plugged bank 72/	
Ту	pe of backfill below observation well	
	Med sand	
De <sub>1</sub>	pth of bottom of boring $\frac{72}{}$	
Dia	ameter of boring	
	450 managen	

Project Name UTA - Zanes ville	Piez/Well No. SP-Z-B	
Location Zanesville, OH	Project No. 57-200	
Installed by Belasco Drilling	Date	
Inspected by M. Powers		
Method of Installation 44"H.S.A.	Time	
Remarks See Sheet SP2-A for Lover	sparge point	
Installation		
FLUSH MOUNT		
Type of surface seal		
Depti	of surface seal 4	
і і і і і і і і і і і і і і і і і і і	of surface casing	
ІО/Туре	of riser pipe 1"7VC SCh40  Sohnson	
Type of	backfill Bet arout	
	of top of seal 40	
Type of	seal Bct chies	
T (₩) 1 (1)	of top of filter pack 49	
Depth o	of top of screen <u>50</u>	
Type of	filter pack Med Sands	
ір/Туре	of screen I"NC Sch 40 Johnson	
Screen	slot size O.O/D	
	f bottom of screen <u>54 子</u>	
V V Depth to section	o bottom of plugged bank 55,0	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	backfill below observation well	
1 Depth o	f bottom of boring $\frac{55.0}{6.00}$	
Diamete	er of boring #	

Project Name <u>UTA-Zanesuille</u>	Piez/Well No. SP-6-8
Location Zanesville, OH	I Project No. 11/200
Installed by Belasco Drilling	Date
Inspected by M. Powers	Date
Method of installation 44" H.S.A.	Time
Remarks See Sheet SP-6-A for	installation of Lower
Course Paint	
FLUSH MOUNT	
//////////////////////////////////////	Type of surface seal
(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	Type of surface seal
	Depth of surface seal 4.0
	}
	ID/Type of surface casing
	. #
	ID/Type of riser pipe / Puc Sch 40
	Type of backfill Bet Grout mlx
~ <b>)</b> L <sub>1</sub>	Type of outcome
	Depth of top of seal 40.0
	Type of seal Bet Chips
	Depth of top of filter pack 49,0
	Depth of top of screen 50, D
	Type of filter nack Med Sand
	Type of filter pack Med Sand
	ID/Type of screen 1" PVC SCh 40
	Depth of bottom of screen <u>54.7</u>
	Depth to bottom of plugged bank
	section 55.0
	Type of backfill below observation well  Med Sands
	5F F
i i	t ("
	Diameter of boring
	POWOCEN

Project Name OTA-Zanesville	Piez/Weil No. SP-6-A		
Location Zanesville, OH	Project No. 57-200		
Installed by Belasco Drilling	Date		
Inspected by M. Powers			
Method of Installation 4/4" H. S A	Time		
Remarks See Sheet SP-6-B for upper well installation			
FLUSH MOUNT	FLUSH MOUNT		
Type Type	pe of surface seal		
Depth of surface seal			
І І І І І І І І І І І І І І І І І І І	pe of surface casing		
L. Incre	pe of riser pipe 2" PVC Sch 40		
	Johnson		
Туре	of backfill		
	of top of seal 5 <u>5,5</u>		
Туре	of seal <u>Bet</u> chips		
La Donnet	of top of filter pack <u>66/6</u>		
- L - L - L - L - L - L - L - L - L - L	of top of screen 67.0		
	·		
Туре	of filter pack <u>Med Sand</u>		
	pe of screen 2" PVC SCh +0		
	Johnson		
Scree	n slot size <u>0.010</u>		
Depth	of bottom of screen <u>7/. 7′</u>		
	ļ		
Depth	to bottom of plugged bank 72.0		
Туре	of backfill below observation well		
Me	d Sand		
Depth Depth	of bottom of boring $\frac{72.0}{}$		
Diame	eter of boring		

Project Name UTA - Zanes Ville	Piez/Weil No. SP-4-Shallow	
Location Zonesville, OH	Project No. 57-200	
Installed by Belasco Drilling	Project No. 57-200  Date 11/3/95	
Inspected by M. Powers	Date	
Method of Installation 44"H.S.A.	Time	
Remarks See Sheet SP-4 for sampling data and		
Construct Details for Deep sparge point Installation		
FLUSH MOUNT		
	Type of surface seal	
The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	Type of surface seal	
	—— Depth of surface seal 4, ○	
	ID/Type of surface casing	
	1D/Type of riser pipe 1"Puc Sch 40 Sohnson	
	Type of backfill	
L		
	Depth of top of seal 45.0	
	Type of seal Bet Chips	
	Depth of top of filter pack 49.0	
	Depth of top of screen 50.0	
	Type of filter pack	
	ID/Type of screen 1"PVC 5Ch 40	
	Screen slot size	
	Depth of bottom of screen $54.7$	
	Depth to bottom of plugged bank	
	section section or plugged bank 55.6	
	Type of backfill below observation well	
	Med Sand	
	- Depth of bottom of bonng	
	- Diameter of boring	